



# STATE OF NEW YORK DEPARTMENT OF HEALTH

Wadsworth Center

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Nirav R. Shah, M.D., M.P.H.  
Commissioner

Sue Kelly  
Executive Deputy Commissioner

To: Laboratory Directors and Laboratory Staff  
From: Robert Rej, Ph.D.  
Date: March 7, 2011  
Subject: Results of February 7, 2011 Hematology Proficiency Test



**International Normalized Ratio (INR) will be formally evaluated beginning June 2011. Check your instrument and reagent entries for accuracy.**

Enclosed are results from the hematology proficiency testing survey shipped February 7, 2011. Five samples were distributed for each test category:

Routine Blood Counts (B41, B42, B43, B44, B45)  
Routine Coagulation (C41, C42, C43, C44, C45- APTT, PT and Fibrinogen assays)  
Cell Identification (341, 342, 343, 344, 345 - Images)

### **Evaluation of Proficiency Test Results:**

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](mailto: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>

New York State Department of Health - Wadsworth Center      Hematology Proficiency Test Event - February 7, 2011  
 Summary of Participant Responses  
 Mean ± One Standard Deviation

White Cell Count (x 10<sup>9</sup>/L)

Specimen: B41	Specimen: B42	Specimen: B43	Specimen: B44	Specimen: B45	Number	[Code] Instrument
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3.07 ± 0.12	15.67 ± 0.50	8.10 ± 0.30	26.56 ± 0.82	21.27 ± 0.92	n = 413	[---] All Methods & Instruments
<b>&lt;Instruments&gt;</b>						
3.16 ± 0.17	15.91 ± 0.41	8.06 ± 0.32	27.12 ± 0.78	21.39 ± 0.30	n = 5	[ABF] Abbott Cell Dyn 3500
3.02 ± 0.15	15.08 ± 0.50	7.90 ± 0.46	25.61 ± 1.70	19.90 ± 1.27	n = 3	[ABG] Abbott Cell Dyn 1700
3.05 ± 0.06	15.55 ± 1.04	8.11 ± 0.44	26.69 ± 1.82	21.58 ± 1.15	n = 4	[ABJ] Abbott Cell Dyn 1800
3.07 ± 0.07	15.45 ± 0.40	8.07 ± 0.15	26.30 ± 0.63	21.19 ± 0.67	n = 12	[ABK] Abbott Cell Dyn 3200
3.12 ± 0.09	15.73 ± 0.37	8.07 ± 0.12	26.59 ± 0.18	21.33 ± 0.47	n = 13	[ABM] Abbott Cell Dyn 3700
3.06 ± 0.12	15.55 ± 0.27	8.00 ± 0.16	26.65 ± 0.57	21.13 ± 0.40	n = 15	[ABS] Abbott Cell Dyn Sapphire
3.10 ± 0.08	15.57 ± 0.29	7.93 ± 0.14	26.41 ± 0.63	20.98 ± 0.46	n = 19	[ABT] Abbott Cell Dyn Ruby
2.95 ± 0.15	15.54 ± 0.53	7.95 ± 0.26	26.67 ± 0.80	21.17 ± 0.92	n = 26	[BTD] Siemens (Bayer)Advia 120
2.98 ± 0.10	15.31 ± 0.39	7.89 ± 0.23	26.77 ± 0.94	21.21 ± 0.80	n = 19	[BTE] Siemens (Bayer)Advia 2120
3.05 ± 0.06	15.76 ± 0.25	8.04 ± 0.14	26.11 ± 0.32	21.04 ± 0.35	n = 6	[CUL] Coulter UniCel DxH 800
3.03 ± 0.10	15.55 ± 0.23	7.90 ± 0.24	26.98 ± 0.40	21.46 ± 0.39	n = 6	[CUS] Coulter ACT 5 diff
3.13 ± 0.12	15.73 ± 0.23	8.18 ± 0.16	26.63 ± 0.56	21.66 ± 0.53	n = 29	[CUT] Coulter ACT series,not ACT5
3.16 ± 0.06	16.14 ± 0.32	8.44 ± 0.14	27.16 ± 0.64	22.69 ± 0.54	n = 13	[CUW] Coulter HMX
3.07 ± 0.08	15.79 ± 0.30	8.28 ± 0.16	26.51 ± 0.39	21.23 ± 0.65	n = 74	[CUX] Coulter LH750,755
3.03 ± 0.08	15.74 ± 0.24	8.27 ± 0.18	26.47 ± 0.47	21.05 ± 0.64	n = 23	[CUY] Coulter LH 780
3.20 ± 0.05	16.16 ± 0.38	8.33 ± 0.14	26.90 ± 0.50	22.58 ± 0.44	n = 22	[CUZ] Coulter LH500
2.92 ± 0.09	15.70 ± 0.55	8.05 ± 0.27	27.15 ± 0.76	21.73 ± 0.58	n = 8	[ROB] ABX Pentra series
3.00 ± 0.00	15.25 ± 0.19	8.00 ± 0.09	26.30 ± 0.00	21.17 ± 0.41	n = 3	[ROC] ABX Micro
2.88 ± 0.04	14.69 ± 0.24	7.60 ± 0.00	25.16 ± 0.33	19.95 ± 0.29	n = 4	[SYB] Sysmex KX-21N
3.06 ± 0.07	15.06 ± 0.46	7.71 ± 0.24	25.61 ± 0.84	20.28 ± 0.74	n = 27	[SYO] Sysmex XE2100
3.04 ± 0.09	15.08 ± 0.29	7.79 ± 0.19	25.87 ± 0.43	20.16 ± 0.47	n = 7	[SYQ] Sysmex XE 2100D
3.05 ± 0.10	15.21 ± 0.49	7.73 ± 0.21	25.51 ± 0.44	20.46 ± 0.70	n = 19	[SYA] Sysmex XE 5000
3.05 ± 0.10	15.89 ± 0.46	8.04 ± 0.21	26.91 ± 0.86	21.25 ± 0.83	n = 24	[SYI] Sysmex XT-series
3.17 ± 0.11	16.32 ± 0.16	8.42 ± 0.19	27.90 ± 0.60	22.27 ± 0.57	n = 16	[SYP] Sysmex XS-series
3.03 ± 0.08	15.06 ± 0.45	7.97 ± 0.23	25.13 ± 1.52	20.21 ± 0.89	n = 4	[OOO] Other

New York State Department of Health - Wadsworth Center      Hematology Proficiency Test Event - February 7, 2011  
 Summary of Participant Responses  
 Mean ± One Standard Deviation

Red Cell Count (x 10<sup>12</sup>/L)

Specimen: B41 -----	Specimen: B42 -----	Specimen: B43 -----	Specimen: B44 -----	Specimen: B45 -----	Number -----	[Code] Instrument -----
2.026 ± 0.058	3.999 ± 0.090	4.575 ± 0.101	4.735 ± 0.091	4.784 ± 0.091	n = 412	[---] All Methods & Instruments
<b>&lt;Instruments&gt;</b>						
2.066 ± 0.032	4.075 ± 0.044	4.688 ± 0.085	4.882 ± 0.072	4.861 ± 0.062	n = 5	[ABF] Abbott Cell Dyn 3500
2.103 ± 0.032	4.142 ± 0.068	4.780 ± 0.073	4.893 ± 0.113	4.824 ± 0.065	n = 3	[ABG] Abbott Cell Dyn 1700
2.122 ± 0.034	3.943 ± 0.152	4.505 ± 0.155	4.651 ± 0.065	4.749 ± 0.065	n = 4	[ABJ] Abbott Cell Dyn 1800
2.079 ± 0.043	4.050 ± 0.057	4.663 ± 0.071	4.791 ± 0.079	4.841 ± 0.073	n = 12	[ABK] Abbott Cell Dyn 3200
2.085 ± 0.034	4.034 ± 0.083	4.617 ± 0.112	4.783 ± 0.086	4.801 ± 0.107	n = 13	[ABM] Abbott Cell Dyn 3700
2.076 ± 0.046	4.064 ± 0.060	4.672 ± 0.079	4.857 ± 0.084	4.917 ± 0.100	n = 15	[ABS] Abbott Cell Dyn Sapphire
2.036 ± 0.044	4.005 ± 0.060	4.610 ± 0.078	4.799 ± 0.092	4.851 ± 0.072	n = 19	[ABT] Abbott Cell Dyn Ruby
2.070 ± 0.038	4.050 ± 0.071	4.604 ± 0.083	4.741 ± 0.075	4.823 ± 0.064	n = 26	[BTD] Siemens (Bayer)Advia 120
2.070 ± 0.044	4.033 ± 0.081	4.616 ± 0.091	4.723 ± 0.073	4.796 ± 0.111	n = 19	[BTE] Siemens (Bayer)Advia 2120
1.953 ± 0.027	3.886 ± 0.061	4.424 ± 0.052	4.610 ± 0.035	4.655 ± 0.055	n = 6	[CUL] Coulter UniCel DxH 800
2.008 ± 0.008	4.027 ± 0.053	4.578 ± 0.035	4.767 ± 0.036	4.834 ± 0.052	n = 6	[CUS] Coulter ACT 5 diff
1.976 ± 0.032	3.922 ± 0.084	4.482 ± 0.126	4.677 ± 0.088	4.713 ± 0.094	n = 28	[CUT] Coulter ACT series,not ACT5
2.014 ± 0.059	3.960 ± 0.078	4.545 ± 0.087	4.728 ± 0.069	4.786 ± 0.080	n = 13	[CUW] Coulter HMX
1.976 ± 0.021	3.934 ± 0.040	4.506 ± 0.042	4.678 ± 0.045	4.721 ± 0.049	n = 74	[CUX] Coulter LH750,755
1.969 ± 0.027	3.936 ± 0.037	4.503 ± 0.050	4.671 ± 0.055	4.714 ± 0.056	n = 23	[CUY] Coulter LH 780
2.020 ± 0.029	3.954 ± 0.063	4.505 ± 0.045	4.699 ± 0.055	4.775 ± 0.038	n = 22	[CUZ] Coulter LH500
2.002 ± 0.044	3.998 ± 0.057	4.586 ± 0.047	4.752 ± 0.065	4.849 ± 0.047	n = 8	[ROB] ABX Pentra series
1.981 ± 0.074	3.991 ± 0.173	4.588 ± 0.142	4.793 ± 0.176	4.830 ± 0.190	n = 3	[ROC] ABX Micro
2.039 ± 0.011	3.940 ± 0.030	4.517 ± 0.016	4.683 ± 0.038	4.711 ± 0.041	n = 4	[SYB] Sysmex KX-21N
2.090 ± 0.020	4.115 ± 0.046	4.677 ± 0.056	4.808 ± 0.040	4.840 ± 0.060	n = 27	[SYO] Sysmex XE2100
2.072 ± 0.023	4.106 ± 0.030	4.654 ± 0.046	4.815 ± 0.026	4.812 ± 0.023	n = 7	[SYQ] Sysmex XE 2100D
2.072 ± 0.027	4.084 ± 0.042	4.661 ± 0.066	4.800 ± 0.067	4.832 ± 0.069	n = 19	[SYA] Sysmex XE 5000
2.021 ± 0.020	3.997 ± 0.053	4.585 ± 0.049	4.726 ± 0.062	4.785 ± 0.048	n = 24	[SYI] Sysmex XT-series
2.013 ± 0.025	4.022 ± 0.037	4.634 ± 0.051	4.816 ± 0.061	4.857 ± 0.061	n = 16	[SYP] Sysmex XS-series
2.022 ± 0.039	3.924 ± 0.073	4.501 ± 0.078	4.671 ± 0.093	4.715 ± 0.087	n = 4	[OOO] Other

New York State Department of Health - Wadsworth Center      Hematology Proficiency Test Event - February 7, 2011  
 Summary of Participant Responses  
 Mean ± One Standard Deviation

Hemoglobin (g/dL)

Specimen: B41	Specimen: B42	Specimen: B43	Specimen: B44	Specimen: B45	Number	[Code] Instrument
6.27 ± 0.14	12.36 ± 0.22	13.75 ± 0.19	14.46 ± 0.25	14.62 ± 0.27	n = 427	[---] All Methods & Instruments
<b>&lt;Instruments&gt;</b>						
< 10.50	15.96 ± 0.61	17.67 ± 1.04	18.20 ± 0.82	18.50 ± 0.72	n = 3	[HQB] HemoCue Donor Hb Checker
6.39 ± 0.09	12.43 ± 0.22	13.97 ± 0.14	14.50 ± 0.15	14.52 ± 0.39	n = 9	[HQC] HemoCue Hb201+/B-Hb
7.74 ± 0.10	16.23 ± 0.14	17.93 ± 0.42	18.89 ± 0.37	19.39 ± 0.44	n = 3	[HQD] HemoCue Hb 301
6.37 ± 0.22	12.63 ± 0.20	14.08 ± 0.33	14.92 ± 0.28	15.09 ± 0.21	n = 5	[ABF] Abbott Cell Dyn 3500
6.20 ± 0.09	12.47 ± 0.14	13.93 ± 0.23	14.77 ± 0.14	14.74 ± 0.10	n = 3	[ABG] Abbott Cell Dyn 1700
6.28 ± 0.04	12.54 ± 0.32	13.82 ± 0.20	14.75 ± 0.23	14.92 ± 0.20	n = 4	[ABJ] Abbott Cell Dyn 1800
6.39 ± 0.11	12.75 ± 0.22	14.00 ± 0.21	14.64 ± 0.29	14.86 ± 0.33	n = 12	[ABK] Abbott Cell Dyn 3200
6.39 ± 0.10	12.48 ± 0.17	13.77 ± 0.18	14.60 ± 0.16	14.83 ± 0.18	n = 13	[ABM] Abbott Cell Dyn 3700
6.51 ± 0.11	12.62 ± 0.17	14.02 ± 0.16	14.78 ± 0.16	14.86 ± 0.13	n = 15	[ABS] Abbott Cell Dyn Sapphire
6.29 ± 0.14	12.47 ± 0.18	13.75 ± 0.15	14.67 ± 0.18	14.91 ± 0.19	n = 19	[ABT] Abbott Cell Dyn Ruby
6.39 ± 0.08	12.48 ± 0.21	13.76 ± 0.17	14.57 ± 0.16	14.71 ± 0.19	n = 25	[BTD] Siemens (Bayer)Advia 120
6.46 ± 0.12	12.45 ± 0.27	13.73 ± 0.21	14.60 ± 0.24	14.68 ± 0.24	n = 20	[BTE] Siemens (Bayer)Advia 2120
6.17 ± 0.10	12.01 ± 0.22	13.46 ± 0.26	14.06 ± 0.20	14.23 ± 0.27	n = 6	[CUL] Coulter UniCel DxH 800
6.26 ± 0.08	12.35 ± 0.15	13.75 ± 0.10	14.49 ± 0.11	14.60 ± 0.09	n = 6	[CUS] Coulter ACT 5 diff
6.20 ± 0.12	12.35 ± 0.19	13.74 ± 0.25	14.44 ± 0.24	14.68 ± 0.23	n = 28	[CUT] Coulter ACT series,not ACT5
6.34 ± 0.09	12.61 ± 0.22	13.83 ± 0.21	14.68 ± 0.15	14.93 ± 0.18	n = 13	[CUW] Coulter HMX
6.26 ± 0.08	12.31 ± 0.13	13.74 ± 0.14	14.41 ± 0.14	14.58 ± 0.16	n = 74	[CUX] Coulter LH750,755
6.27 ± 0.07	12.31 ± 0.13	13.75 ± 0.16	14.41 ± 0.16	14.58 ± 0.16	n = 23	[CUY] Coulter LH 780
6.35 ± 0.13	12.50 ± 0.16	13.79 ± 0.18	14.58 ± 0.20	14.86 ± 0.22	n = 22	[CUZ] Coulter LH500
6.06 ± 0.07	12.24 ± 0.10	13.63 ± 0.09	14.34 ± 0.12	14.58 ± 0.10	n = 8	[ROB] ABX Pentra series
6.27 ± 0.14	12.30 ± 0.18	13.75 ± 0.27	14.30 ± 0.18	14.57 ± 0.32	n = 3	[ROC] ABX Micro
6.10 ± 0.15	12.29 ± 0.26	13.67 ± 0.23	14.26 ± 0.23	14.45 ± 0.19	n = 4	[SYB] Sysmex KX-21N
6.22 ± 0.09	12.21 ± 0.14	13.62 ± 0.15	14.26 ± 0.15	14.37 ± 0.15	n = 27	[SYO] Sysmex XE2100
6.20 ± 0.06	12.23 ± 0.07	13.70 ± 0.07	14.28 ± 0.09	14.37 ± 0.10	n = 6	[SYQ] Sysmex XE 2100D
6.16 ± 0.08	12.13 ± 0.13	13.57 ± 0.16	14.16 ± 0.20	14.32 ± 0.17	n = 19	[SYA] Sysmex XE 5000
6.18 ± 0.06	12.30 ± 0.10	13.68 ± 0.11	14.23 ± 0.17	14.36 ± 0.14	n = 24	[SYI] Sysmex XT-series
6.13 ± 0.05	12.29 ± 0.11	13.78 ± 0.13	14.50 ± 0.17	14.66 ± 0.11	n = 16	[SYP] Sysmex XS-series
6.18 ± 0.15	12.36 ± 0.23	13.80 ± 0.17	14.41 ± 0.20	14.52 ± 0.31	n = 4	[OOO] Other

New York State Department of Health - Wadsworth Center      Hematology Proficiency Test Event - February 7, 2011  
 Summary of Participant Responses  
 Mean ± One Standard Deviation

Hematocrit (%)

Specimen: B41	Specimen: B42	Specimen: B43	Specimen: B44	Specimen: B45	Number	[Code] Instrument
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18.19 ± 1.07	34.81 ± 1.77	39.01 ± 1.91	40.46 ± 2.10	40.73 ± 2.01	n = 418	[---] All Methods & Instruments
<b>&lt;Instruments&gt;</b>						
17.00 ± 0.00	32.18 ± 1.67	36.08 ± 1.43	37.78 ± 1.76	39.00 ± 0.00	n = 6	[MHC] Microhematocrit
18.55 ± 0.12	36.42 ± 0.47	41.30 ± 0.35	42.38 ± 0.90	42.42 ± 0.76	n = 5	[ABF] Abbott Cell Dyn 3500
18.85 ± 0.19	35.96 ± 0.26	40.66 ± 1.37	42.05 ± 0.72	41.04 ± 0.26	n = 3	[ABG] Abbott Cell Dyn 1700
19.51 ± 0.78	35.24 ± 2.00	39.45 ± 2.05	41.00 ± 1.31	41.70 ± 1.34	n = 4	[ABJ] Abbott Cell Dyn 1800
16.05 ± 0.43	30.59 ± 0.84	35.00 ± 0.64	35.70 ± 0.70	36.09 ± 0.82	n = 12	[ABK] Abbott Cell Dyn 3200
18.97 ± 0.33	36.04 ± 0.63	40.61 ± 0.86	42.24 ± 0.66	42.31 ± 0.85	n = 13	[ABM] Abbott Cell Dyn 3700
17.17 ± 0.43	32.77 ± 0.53	37.15 ± 0.68	38.51 ± 0.78	38.89 ± 0.89	n = 15	[ABS] Abbott Cell Dyn Sapphire
15.58 ± 0.43	30.03 ± 0.76	34.49 ± 0.83	35.72 ± 0.81	36.03 ± 0.83	n = 19	[ABT] Abbott Cell Dyn Ruby
16.34 ± 0.39	31.60 ± 0.81	35.58 ± 0.80	36.59 ± 0.78	37.19 ± 0.81	n = 26	[BTD] Siemens (Bayer)Advia 120
16.46 ± 0.59	31.51 ± 1.06	35.79 ± 1.11	36.57 ± 1.10	37.02 ± 1.29	n = 19	[BTE] Siemens (Bayer)Advia 2120
18.64 ± 0.25	36.02 ± 0.57	40.02 ± 0.47	41.97 ± 0.39	42.14 ± 0.19	n = 6	[CUL] Coulter UniCel DxH 800
16.84 ± 0.48	33.59 ± 0.51	37.41 ± 0.52	39.66 ± 0.61	40.08 ± 0.68	n = 6	[CUS] Coulter ACT 5 diff
18.23 ± 0.35	35.22 ± 0.76	39.26 ± 1.13	41.29 ± 0.82	41.45 ± 0.77	n = 28	[CUT] Coulter ACT series,not ACT5
18.53 ± 0.65	35.52 ± 0.77	39.93 ± 0.96	41.77 ± 0.67	42.15 ± 0.76	n = 13	[CUW] Coulter HMX
18.33 ± 0.25	35.66 ± 0.45	39.97 ± 0.46	41.73 ± 0.52	41.99 ± 0.51	n = 73	[CUX] Coulter LH750,755
18.15 ± 0.26	35.48 ± 0.28	39.92 ± 0.40	41.62 ± 0.44	41.89 ± 0.47	n = 24	[CUY] Coulter LH 780
18.53 ± 0.33	35.41 ± 0.53	39.54 ± 0.45	41.47 ± 0.59	41.81 ± 0.49	n = 22	[CUZ] Coulter LH500
17.17 ± 0.40	33.52 ± 0.49	37.57 ± 0.57	39.46 ± 0.71	40.28 ± 0.57	n = 8	[ROB] ABX Pentra series
17.49 ± 0.20	34.32 ± 0.59	38.82 ± 0.15	40.61 ± 0.61	40.75 ± 0.54	n = 3	[ROC] ABX Micro
17.64 ± 0.28	32.45 ± 0.67	36.70 ± 0.67	37.87 ± 0.49	37.94 ± 0.72	n = 4	[SYB] Sysmex KX-21N
19.05 ± 0.37	35.66 ± 0.57	39.81 ± 0.48	40.72 ± 0.57	40.84 ± 0.56	n = 27	[SYO] Sysmex XE2100
19.01 ± 0.25	35.76 ± 0.37	39.88 ± 0.40	41.04 ± 0.31	40.93 ± 0.41	n = 7	[SYQ] Sysmex XE 2100D
18.92 ± 0.27	35.51 ± 0.51	39.85 ± 0.44	40.81 ± 0.61	40.95 ± 0.67	n = 19	[SYA] Sysmex XE 5000
18.99 ± 0.38	34.78 ± 0.65	38.97 ± 0.63	39.84 ± 0.61	40.03 ± 0.57	n = 24	[SYI] Sysmex XT-series
18.89 ± 0.23	34.96 ± 0.54	39.33 ± 0.64	40.51 ± 0.67	40.62 ± 0.80	n = 16	[SYP] Sysmex XS-series
18.79 ± 0.44	35.49 ± 0.68	39.84 ± 0.48	41.26 ± 0.53	41.43 ± 0.60	n = 4	[OOO] Other

New York State Department of Health - Wadsworth Center      Hematology Proficiency Test Event - February 7, 2011  
 Summary of Participant Responses  
 Mean ± One Standard Deviation

Platelet Count (x 10<sup>9</sup>/L)

Specimen: B41 -----	Specimen: B42 -----	Specimen: B43 -----	Specimen: B44 -----	Specimen: B45 -----	Number -----	[Code] Instrument -----
44.9 ± 6.15	315.4 ± 25.94	236.5 ± 20.08	179.2 ± 16.10	543.4 ± 42.47	n = 413	[---] All Methods & Instruments
<b>&lt;Instruments&gt;</b>						
47.4 ± 3.06	335.7 ± 15.38	264.3 ± 18.10	198.2 ± 5.23	592.3 ± 24.13	n = 5	[ABF] Abbott Cell Dyn 3500
40.5 ± 4.61	324.8 ± 5.12	258.8 ± 13.99	187.5 ± 11.02	563.6 ± 11.45	n = 3	[ABG] Abbott Cell Dyn 1700
45.9 ± 3.00	325.2 ± 12.85	256.7 ± 9.12	191.2 ± 4.91	604.1 ± 15.91	n = 4	[ABJ] Abbott Cell Dyn 1800
61.9 ± 4.93	351.1 ± 14.26	260.7 ± 11.02	199.6 ± 7.95	584.9 ± 21.70	n = 12	[ABK] Abbott Cell Dyn 3200
51.7 ± 5.55	347.3 ± 20.40	257.4 ± 13.23	196.6 ± 15.23	587.9 ± 36.23	n = 13	[ABM] Abbott Cell Dyn 3700
50.2 ± 4.26	319.8 ± 12.17	239.2 ± 10.85	183.1 ± 8.12	543.3 ± 21.26	n = 15	[ABS] Abbott Cell Dyn Sapphire
63.2 ± 4.12	344.9 ± 18.89	261.7 ± 12.14	205.4 ± 10.12	582.7 ± 29.43	n = 19	[ABT] Abbott Cell Dyn Ruby
51.1 ± 3.83	342.0 ± 20.55	257.1 ± 11.87	195.1 ± 9.83	593.7 ± 28.58	n = 26	[BTD] Siemens (Bayer)Advia 120
48.3 ± 5.05	341.9 ± 20.47	255.9 ± 14.34	193.6 ± 12.21	594.1 ± 31.43	n = 19	[BTE] Siemens (Bayer)Advia 2120
42.4 ± 1.61	302.0 ± 5.74	223.9 ± 2.27	170.0 ± 1.60	514.6 ± 5.23	n = 6	[CUL] Coulter UniCel DxH 800
46.6 ± 5.00	347.2 ± 14.27	254.2 ± 11.51	191.1 ± 5.67	575.6 ± 19.24	n = 6	[CUS] Coulter ACT 5 diff
42.2 ± 2.74	315.4 ± 13.84	233.4 ± 12.15	175.6 ± 7.33	547.0 ± 21.61	n = 29	[CUT] Coulter ACT series,not ACT5
44.1 ± 2.72	304.6 ± 12.70	228.0 ± 10.70	173.0 ± 7.28	528.4 ± 17.85	n = 13	[CUW] Coulter HMX
44.3 ± 1.67	305.7 ± 8.50	231.3 ± 6.58	175.9 ± 5.16	524.3 ± 14.99	n = 74	[CUX] Coulter LH750,755
44.5 ± 1.29	308.8 ± 7.85	232.0 ± 4.93	176.5 ± 4.39	526.5 ± 13.45	n = 23	[CUY] Coulter LH 780
42.3 ± 3.14	305.4 ± 10.21	226.5 ± 9.79	174.8 ± 7.72	529.4 ± 15.76	n = 22	[CUZ] Coulter LH500
47.3 ± 5.52	347.0 ± 11.61	254.7 ± 11.53	192.3 ± 4.48	576.1 ± 11.80	n = 8	[ROB] ABX Pentra series
52.8 ± 1.54	337.2 ± 12.27	249.5 ± 4.61	191.3 ± 7.58	565.1 ± 10.67	n = 3	[ROC] ABX Micro
36.0 ± 4.01	317.7 ± 4.29	237.6 ± 5.10	175.5 ± 5.82	567.5 ± 3.90	n = 4	[SYB] Sysmex KX-21N
37.3 ± 2.14	273.8 ± 8.47	201.8 ± 6.58	149.8 ± 5.77	466.3 ± 16.84	n = 27	[SYO] Sysmex XE2100
46.3 ± 1.56	344.2 ± 6.59	250.9 ± 6.39	190.3 ± 3.52	585.3 ± 2.22	n = 7	[SYQ] Sysmex XE 2100D
36.8 ± 2.09	266.5 ± 7.85	197.2 ± 4.36	149.9 ± 5.71	463.4 ± 14.78	n = 19	[SYA] Sysmex XE 5000
44.7 ± 5.22	314.3 ± 11.27	233.1 ± 8.55	175.5 ± 5.13	546.2 ± 14.08	n = 24	[SYI] Sysmex XT-series
41.3 ± 2.00	306.2 ± 6.94	228.1 ± 6.04	169.4 ± 5.51	537.3 ± 13.67	n = 16	[SYP] Sysmex XS-series
42.9 ± 2.35	334.2 ± 18.32	252.3 ± 14.46	194.7 ± 12.92	561.6 ± 26.76	n = 4	[OOO] Other

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Prothrombin Time (seconds)

Specimen: C41 -----	Specimen: C42 -----	Specimen: C43 -----	Specimen: C44 -----	Specimen: C45 -----	Number -----	[Code] Instrument or Reagent -----
31.82 ± 4.89	42.82 ± 7.37	11.50 ± 0.76	11.58 ± 0.72	31.58 ± 4.76	n = 323	[---] All Methods & Instruments
<b>&lt;Instruments&gt;</b>						
25.83 ± 5.34	33.83 ± 7.88	11.58 ± 0.77	11.32 ± 0.69	26.02 ± 5.22	n = 3	[BBA] BBL Fibrometer
29.40 ± 0.77	38.74 ± 1.46	11.06 ± 0.23	11.36 ± 0.19	29.11 ± 0.94	n = 21	[BEB] Dade-Behring BCS,BCSXP
34.03 ± 0.86	45.00 ± 1.28	12.73 ± 0.34	12.58 ± 0.32	34.26 ± 0.39	n = 3	[BXE] Trinity Biotech MDA
35.17 ± 1.78	48.36 ± 2.81	12.98 ± 0.32	12.95 ± 0.26	35.47 ± 1.63	n = 32	[DGC] Diagnostica Stago STA Compa
36.02 ± 1.29	48.72 ± 2.99	13.20 ± 0.50	13.27 ± 0.47	35.60 ± 1.22	n = 15	[DGD] Diagnostica Stago STA-R, ST
23.29 ± 1.34	29.55 ± 1.74	11.83 ± 0.73	12.22 ± 0.65	22.99 ± 1.30	n = 16	[ILA] IL ACL(All models except 81
33.81 ± 7.22	45.47 ± 10.66	11.58 ± 0.39	11.46 ± 0.35	33.80 ± 6.99	n = 39	[ILC] IL ACL Futura/Advance
31.57 ± 4.89	43.12 ± 7.14	11.26 ± 0.46	11.33 ± 0.62	30.75 ± 4.41	n = 34	[ILD] IL ACL(ELITE,ELITE PRO,8/9/
36.31 ± 2.16	49.97 ± 3.33	11.74 ± 0.39	11.69 ± 0.43	35.88 ± 2.41	n = 42	[ILE] IL ACL TOP Series (ACLTOP,A
29.68 ± 1.61	39.34 ± 2.12	10.94 ± 0.30	11.04 ± 0.24	29.55 ± 1.31	n = 36	[SYW] Sysmex CA500,540,560
29.72 ± 1.10	39.90 ± 1.45	11.11 ± 0.28	11.28 ± 0.22	29.63 ± 0.94	n = 58	[SYX] Sysmex CA 1500
29.94 ± 1.17	40.10 ± 1.65	11.49 ± 0.17	11.65 ± 0.14	29.81 ± 1.02	n = 15	[SYY] Sysmex CA 7000
<b>&lt;Reagents&gt;</b>						
35.43 ± 1.68	48.53 ± 2.69	13.04 ± 0.36	13.03 ± 0.32	35.55 ± 1.48	n = 46	[TA3] STA Neoplastine CL+
29.70 ± 1.22	39.65 ± 1.78	11.08 ± 0.32	11.27 ± 0.30	29.58 ± 1.12	n = 130	[TD2] Dade Innovin
21.18 ± 0.69	25.54 ± 1.15	11.53 ± 0.31	11.64 ± 0.39	20.85 ± 0.90	n = 3	[TD4] Dade Thromboplastin C+
23.37 ± 1.11	29.56 ± 1.58	11.67 ± 0.52	11.93 ± 0.62	23.12 ± 1.11	n = 35	[TJ2] HemosIL PT-Fibrinogen
35.99 ± 2.59	49.10 ± 3.68	11.56 ± 0.45	11.48 ± 0.46	35.42 ± 2.90	n = 92	[TJ8] HemosIL RecombiPlasTin 2G
22.09 ± 1.02	28.47 ± 1.31	10.88 ± 1.29	10.84 ± 0.98	21.91 ± 1.37	n = 4	[TP2] Fisher/PH Thromboplastin D



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Prothrombin Time (seconds) - continued

Specimen: C41	Specimen: C42	Specimen: C43	Specimen: C44	Specimen: C45	Number	[Code] Reagent & Instrument
35.17 ± 1.78	48.36 ± 2.81	12.98 ± 0.32	12.95 ± 0.26	35.47 ± 1.63	n = 32	[TA3]&[DGC] STA Neoplastin & Diagnostica St
36.15 ± 0.95	49.23 ± 2.12	13.25 ± 0.42	13.32 ± 0.38	35.76 ± 0.92	n = 13	[TA3]&[DGD] STA Neoplastin & Diagnostica St
29.40 ± 0.77	38.74 ± 1.46	11.04 ± 0.21	11.34 ± 0.17	29.11 ± 0.94	n = 20	[TD2]&[BEB] Dade Innovin & Dade-Behring B
29.68 ± 1.59	39.34 ± 2.11	10.94 ± 0.30	11.03 ± 0.25	29.55 ± 1.31	n = 35	[TD2]&[SYW] Dade Innovin & Sysmex CA500,5
29.71 ± 1.10	39.90 ± 1.45	11.10 ± 0.27	11.29 ± 0.22	29.63 ± 0.94	n = 57	[TD2]&[SYX] Dade Innovin & Sysmex CA 1500
29.94 ± 1.17	40.10 ± 1.65	11.49 ± 0.17	11.65 ± 0.14	29.81 ± 1.02	n = 15	[TD2]&[SYY] Dade Innovin & Sysmex CA 7000
23.56 ± 1.17	29.86 ± 1.70	11.89 ± 0.44	12.24 ± 0.45	23.29 ± 1.02	n = 13	[TJ2]&[ILA] HemosIL PT-Fib & IL ACL(All mod
23.10 ± 1.15	29.47 ± 1.57	11.27 ± 0.30	11.32 ± 0.38	23.25 ± 1.22	n = 12	[TJ2]&[ILC] HemosIL PT-Fib & IL ACL Futura/
23.35 ± 0.45	29.12 ± 1.07	11.84 ± 0.48	12.24 ± 0.40	22.59 ± 0.51	n = 9	[TJ2]&[ILD] HemosIL PT-Fib & IL ACL(ELITE,E
37.50 ± 1.85	50.83 ± 2.54	11.70 ± 0.34	11.52 ± 0.31	37.32 ± 1.65	n = 25	[TJ8]&[ILC] HemosIL Recomb & IL ACL Futura/
33.54 ± 1.92	45.83 ± 2.59	11.11 ± 0.30	11.08 ± 0.35	32.33 ± 1.89	n = 25	[TJ8]&[ILD] HemosIL Recomb & IL ACL(ELITE,E
36.35 ± 2.17	50.07 ± 3.31	11.73 ± 0.38	11.68 ± 0.42	35.93 ± 2.43	n = 41	[TJ8]&[ILE] HemosIL Recomb & IL ACL TOP Ser

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**Act Partial Thromboplastin Time (seconds)**

Specimen: C41 -----	Specimen: C42 -----	Specimen: C43 -----	Specimen: C44 -----	Specimen: C45 -----	Number	[Code] Instrument or Reagent -----
57.46 ± 5.39	65.58 ± 4.89	32.01 ± 2.09	28.66 ± 1.15	57.27 ± 5.31	n = 315	[---] All Methods & Instruments
<b>&lt;Instruments&gt;</b>						
52.90 ± 2.36	58.77 ± 2.11	29.79 ± 0.65	27.96 ± 0.62	52.17 ± 1.35	n = 21	[BEB] Dade-Behring BCS,BCSXP
53.29 ± 3.63	64.93 ± 6.08	29.75 ± 2.35	26.21 ± 1.47	52.73 ± 3.29	n = 3	[BXE] Trinity Biotech MDA
56.11 ± 1.84	66.99 ± 2.71	34.19 ± 1.25	29.23 ± 0.90	55.99 ± 2.24	n = 30	[DGC] Diagnostica Stago STA Compa
53.37 ± 1.09	64.29 ± 0.98	33.20 ± 1.21	28.64 ± 0.90	53.15 ± 1.22	n = 13	[DGD] Diagnostica Stago STA-R, ST
54.89 ± 7.33	62.11 ± 2.17	31.57 ± 1.67	27.66 ± 0.88	53.17 ± 4.19	n = 18	[ILA] IL ACL(All models except 81
63.17 ± 5.07	69.11 ± 5.18	32.33 ± 2.41	27.90 ± 1.24	62.76 ± 5.09	n = 39	[ILC] IL ACL Futura/Advance
59.94 ± 5.15	67.10 ± 4.29	31.58 ± 1.41	28.07 ± 0.83	59.03 ± 5.37	n = 31	[ILD] IL ACL(ELITE,ELITE PRO,8/9/
62.13 ± 2.44	68.57 ± 2.79	34.36 ± 1.31	29.50 ± 0.72	61.83 ± 2.21	n = 41	[ILE] IL ACL TOP Series (ACLTOP,A
72.13 ± 16.06	81.92 ± 21.34	29.07 ± 4.00	26.86 ± 2.92	72.32 ± 17.13	n = 3	[MLG] IL Electra 1400C,1600C,1800
54.82 ± 1.98	63.14 ± 2.91	31.02 ± 1.05	28.62 ± 0.86	54.90 ± 2.10	n = 33	[SYW] Sysmex CA500,540,560
55.86 ± 2.38	63.86 ± 2.35	31.34 ± 1.09	29.11 ± 1.01	55.99 ± 2.17	n = 58	[SYX] Sysmex CA 1500
54.33 ± 2.34	62.51 ± 3.39	30.83 ± 0.55	28.88 ± 0.62	54.78 ± 2.48	n = 13	[SYY] Sysmex CA 7000
<b>&lt;Reagents&gt;</b>						
55.10 ± 2.33	65.87 ± 2.82	33.85 ± 1.27	29.05 ± 0.88	55.02 ± 2.41	n = 44	[AA2] Diagnostica Stago STA PTT-A
75.10 ± 6.84	93.79 ± 11.44	30.89 ± 0.64	27.46 ± 1.52	74.13 ± 6.89	n = 7	[AD2] Dade Actin
91.70 ± 4.44	108.40 ± 5.41	29.66 ± 0.94	27.39 ± 0.56	91.58 ± 5.15	n = 8	[AD3] Dade Actin FS
55.04 ± 2.61	62.89 ± 3.32	31.04 ± 1.16	28.87 ± 0.93	55.10 ± 2.68	n = 114	[AD4] Dade Actin FSL
51.83 ± 2.03	60.85 ± 2.22	30.41 ± 1.68	27.17 ± 1.25	51.27 ± 1.75	n = 30	[AJ3] HemosIL Test APTT-SP
56.90 ± 3.03	69.91 ± 4.83	31.63 ± 3.21	28.27 ± 2.46	58.41 ± 4.94	n = 4	[AK3] Trin Bio TriniCLOT aPTTS
53.83 ± 4.63	60.24 ± 5.93	29.10 ± 1.26	26.07 ± 0.75	51.20 ± 1.49	n = 4	[AK5] Trinity Biotech MDA Plateli
62.95 ± 2.61	69.43 ± 2.85	33.33 ± 1.73	28.76 ± 1.02	62.48 ± 2.55	n = 96	[AO4] HemosIL SynthASil

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Act Partial Thromboplastin Time (seconds) - continued

Specimen: C41	Specimen: C42	Specimen: C43	Specimen: C44	Specimen: C45	Number	[Code] Reagent & Instrument
-----	-----	-----	-----	-----	-----	-----
56.11 ± 1.84	66.99 ± 2.71	34.19 ± 1.25	29.23 ± 0.90	55.99 ± 2.24	n = 30	[AA2]&[DGC] Diagnostica St & Diagnostica St
53.37 ± 1.09	64.29 ± 0.98	33.40 ± 0.81	28.75 ± 0.77	53.31 ± 1.03	n = 12	[AA2]&[DGD] Diagnostica St & Diagnostica St
91.94 ± 3.98	109.73 ± 4.28	29.71 ± 0.84	27.55 ± 0.37	92.42 ± 4.14	n = 4	[AD3]&[SYX] Dade Actin FS & Sysmex CA 1500
52.77 ± 2.01	58.76 ± 2.06	29.76 ± 0.56	28.00 ± 0.62	52.16 ± 1.33	n = 16	[AD4]&[BEB] Dade Actin FSL & Dade-Behring B
54.82 ± 1.98	63.14 ± 2.90	31.02 ± 1.09	28.64 ± 0.74	54.90 ± 2.10	n = 30	[AD4]&[SYW] Dade Actin FSL & Sysmex CA500,5
55.86 ± 2.38	63.86 ± 2.35	31.50 ± 0.98	29.28 ± 0.86	55.99 ± 2.17	n = 52	[AD4]&[SYX] Dade Actin FSL & Sysmex CA 1500
54.33 ± 2.34	62.51 ± 3.39	30.83 ± 0.55	28.88 ± 0.62	54.78 ± 2.48	n = 13	[AD4]&[SYY] Dade Actin FSL & Sysmex CA 7000
52.47 ± 1.80	61.80 ± 1.65	31.19 ± 1.46	27.43 ± 0.78	52.00 ± 1.68	n = 13	[AJ3]&[ILA] HemosIL Test A & IL ACL(All mod
50.29 ± 1.02	58.37 ± 1.07	28.40 ± 0.65	25.55 ± 1.04	49.91 ± 1.17	n = 8	[AJ3]&[ILC] HemosIL Test A & IL ACL Futura/
52.60 ± 2.15	61.56 ± 1.83	31.00 ± 0.79	27.71 ± 0.66	51.58 ± 1.47	n = 9	[AJ3]&[ILD] HemosIL Test A & IL ACL(ELITE,E
65.20 ± 5.42	73.56 ± 6.57	32.03 ± 1.39	28.09 ± 0.43	65.71 ± 7.65	n = 4	[AO4]&[ILA] HemosIL SynthA & IL ACL(All mod
64.54 ± 1.93	70.77 ± 2.43	33.11 ± 1.31	28.18 ± 0.79	63.96 ± 1.88	n = 29	[AO4]&[ILC] HemosIL SynthA & IL ACL Futura/
62.17 ± 2.39	69.00 ± 2.64	31.91 ± 1.55	28.22 ± 0.84	61.49 ± 2.73	n = 22	[AO4]&[ILD] HemosIL SynthA & IL ACL(ELITE,E
62.13 ± 2.44	68.57 ± 2.79	34.36 ± 1.31	29.50 ± 0.72	61.83 ± 2.21	n = 41	[AO4]&[ILE] HemosIL SynthA & IL ACL TOP Ser

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**Fibrinogen (mg/dL)**

Specimen: C41 -----	Specimen: C42 -----	Specimen: C43 -----	Specimen: C44 -----	Specimen: C45 -----	Number -----	[Code] Instrument or Reagent -----
290.9 ± 43.27	276.4 ± 44.35	402.8 ± 48.81	290.4 ± 30.94	291.9 ± 44.45	n = 218	[---] All Methods & Instruments
<b>&lt;Instruments&gt;</b>						
337.3 ± 23.65	305.4 ± 21.95	436.5 ± 31.28	321.1 ± 19.04	331.0 ± 26.09	n = 20	[BEB] Dade-Behring BCS,BCSXP
292.8 ± 19.41	275.1 ± 16.34	446.6 ± 19.32	306.8 ± 13.84	287.4 ± 15.85	n = 27	[DGC] Diagnostica Stago STA Compa
281.0 ± 12.07	271.4 ± 11.62	434.2 ± 13.61	301.6 ± 9.12	284.3 ± 11.95	n = 14	[DGD] Diagnostica Stago STA-R, ST
399.8 ± 27.96	392.9 ± 30.32	419.8 ± 24.74	336.3 ± 7.88	402.2 ± 36.31	n = 4	[ILA] IL ACL(All models except 81
361.1 ± 35.77	366.1 ± 25.32	349.3 ± 57.55	269.3 ± 30.43	361.7 ± 36.24	n = 32	[ILC] IL ACL Futura/Advance
351.5 ± 82.49	341.7 ± 87.55	488.4 ± 70.53	334.0 ± 29.70	359.3 ± 80.77	n = 11	[ILD] IL ACL(ELITE,ELITE PRO,8/9/
287.7 ± 25.20	277.1 ± 25.65	410.7 ± 26.20	299.7 ± 25.47	294.2 ± 27.90	n = 37	[ILE] IL ACL TOP Series (ACLTOP,A
255.3 ± 13.30	237.8 ± 15.67	370.0 ± 32.69	266.9 ± 21.80	246.4 ± 23.26	n = 6	[SYW] Sysmex CA500,540,560
260.5 ± 15.30	246.9 ± 15.04	378.1 ± 19.17	269.6 ± 15.68	259.9 ± 15.79	n = 48	[SYX] Sysmex CA 1500
258.7 ± 12.39	245.6 ± 14.40	373.0 ± 22.61	269.1 ± 19.27	258.4 ± 20.04	n = 11	[SYY] Sysmex CA 7000
<b>&lt;Reagents&gt;</b>						
398.6 ± 30.44	387.0 ± 20.09	412.8 ± 25.25	321.4 ± 28.45	400.2 ± 29.72	n = 15	[TJ2] HemosIL PT-Fibrinogen
336.7 ± 33.18	336.4 ± 43.12	360.6 ± 53.54	283.8 ± 39.17	340.3 ± 31.72	n = 38	[TJ8] HemosIL RecombiPlasTin 2G
289.0 ± 18.64	274.2 ± 15.63	442.3 ± 19.66	305.5 ± 13.03	287.0 ± 15.17	n = 42	[FA4] Stago STA-Fibrinogen 5
341.6 ± 16.66	309.5 ± 16.91	441.0 ± 28.77	322.7 ± 18.77	335.8 ± 20.70	n = 17	[FB2] Behring Multifibren U
259.9 ± 15.96	245.8 ± 16.43	376.8 ± 23.85	269.3 ± 18.44	259.3 ± 18.51	n = 69	[FD2] Dade Fib (thrombin)
278.8 ± 16.45	267.0 ± 16.84	432.3 ± 40.92	295.7 ± 21.80	286.7 ± 20.26	n = 25	[FJ2] HemosIL Fibrinogen C,XL
268.9 ± 15.08	248.6 ± 17.53	366.5 ± 20.03	283.7 ± 19.57	271.1 ± 19.91	n = 3	[FM1] Kamiya K-Assay Fibrinogen
271.7 ± 34.55	259.9 ± 23.24	464.6 ± 77.98	290.0 ± 51.71	285.9 ± 38.58	n = 5	[FO3] HemosIL QFA(bovine)

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Fibrinogen (mg/dL)- continued

Specimen: C41 -----	Specimen: C42 -----	Specimen: C43 -----	Specimen: C44 -----	Specimen: C45 -----	Number -----	[Code] Reagent & Instrument -----
399.8 ± 27.96	392.9 ± 30.32	419.8 ± 24.74	336.3 ± 7.88	402.2 ± 36.31	n = 4	[TJ2]&[ILA] HemosIL PT-Fib & IL ACL(All mod
396.6 ± 11.51	385.5 ± 17.23	409.9 ± 15.15	303.2 ± 5.16	398.8 ± 19.17	n = 7	[TJ2]&[ILC] HemosIL PT-Fib & IL ACL Futura/
384.7 ± 68.97	388.8 ± 17.51	423.8 ± 42.87	345.6 ± 27.76	395.8 ± 34.16	n = 3	[TJ2]&[ILD] HemosIL PT-Fib & IL ACL(ELITE,E
359.2 ± 18.37	363.3 ± 17.86	319.3 ± 18.91	252.6 ± 13.48	359.8 ± 20.01	n = 20	[TJ8]&[ILC] HemosIL Recomb & IL ACL Futura/
309.2 ± 12.46	296.0 ± 10.56	404.3 ± 16.82	318.1 ± 12.24	312.6 ± 17.23	n = 16	[TJ8]&[ILE] HemosIL Recomb & IL ACL TOP Ser
292.8 ± 19.41	275.1 ± 16.34	446.6 ± 19.32	306.8 ± 13.84	287.4 ± 15.85	n = 27	[FA4]&[DGC] Stago STA-Fibr & Diagnostica St
281.0 ± 12.07	271.4 ± 11.62	434.2 ± 13.61	301.6 ± 9.12	284.3 ± 11.95	n = 14	[FA4]&[DGD] Stago STA-Fibr & Diagnostica St
341.6 ± 16.66	309.5 ± 16.91	441.0 ± 28.77	322.7 ± 18.77	335.8 ± 20.70	n = 17	[FB2]&[BEB] Behring Multif & Dade-Behring B
270.4 ± 26.64	257.2 ± 23.90	383.0 ± 48.45	289.0 ± 40.91	261.7 ± 40.67	n = 3	[FD2]&[BEB] Dade Fib (thro & Dade-Behring B
255.3 ± 13.30	237.8 ± 15.67	370.0 ± 32.69	266.9 ± 21.80	246.4 ± 23.26	n = 6	[FD2]&[SYW] Dade Fib (thro & Sysmex CA500,5
260.5 ± 15.30	246.9 ± 15.04	378.1 ± 19.17	269.6 ± 15.68	259.9 ± 15.79	n = 48	[FD2]&[SYX] Dade Fib (thro & Sysmex CA 1500
258.7 ± 12.39	245.6 ± 14.40	373.0 ± 22.61	269.1 ± 19.27	258.4 ± 20.04	n = 11	[FD2]&[SYY] Dade Fib (thro & Sysmex CA 7000
280.0 ± 17.13	266.4 ± 6.66	440.8 ± 19.53	304.3 ± 4.96	288.9 ± 5.22	n = 3	[FJ2]&[ILC] HemosIL Fibrin & IL ACL Futura/
294.8 ± 17.75	272.3 ± 15.68	523.4 ± 46.61	321.3 ± 22.63	304.3 ± 18.98	n = 5	[FJ2]&[ILD] HemosIL Fibrin & IL ACL(ELITE,E
274.9 ± 14.64	265.1 ± 19.36	418.1 ± 26.16	287.7 ± 19.30	280.9 ± 20.47	n = 17	[FJ2]&[ILE] HemosIL Fibrin & IL ACL TOP Ser
253.6 ± 9.30	249.4 ± 6.45	437.8 ± 59.47	260.8 ± 23.25	266.9 ± 30.50	n = 3	[FO3]&[ILE] HemosIL QFA(bo & IL ACL TOP Ser

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INR (International Normalized Ratio)

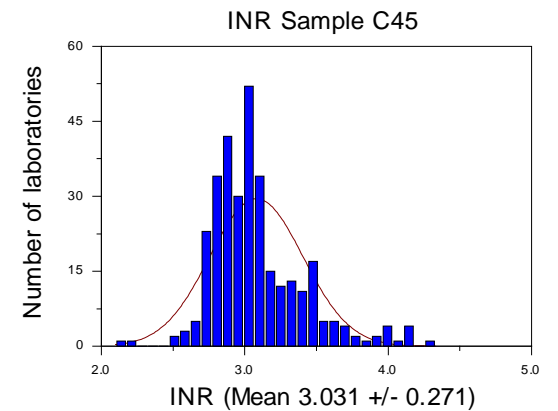
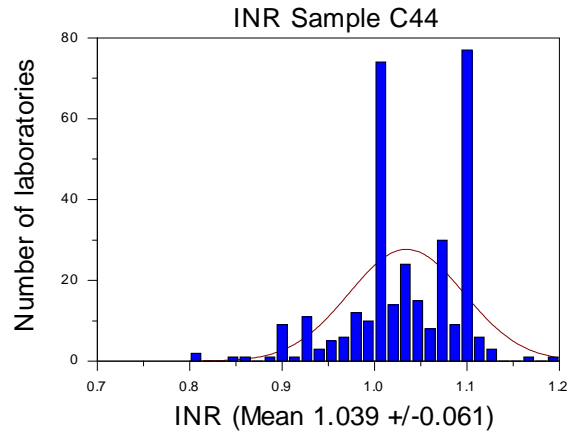
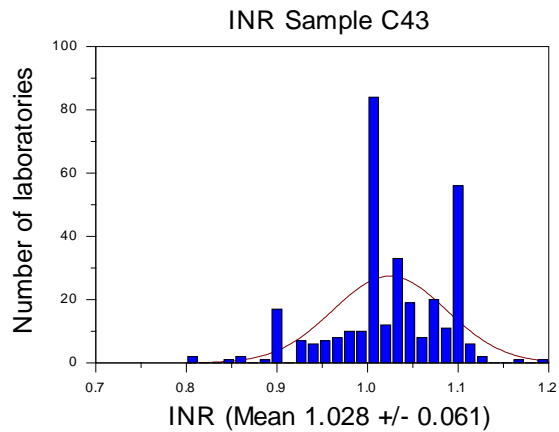
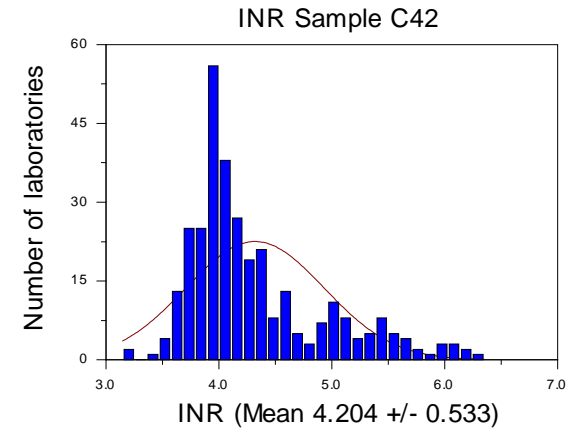
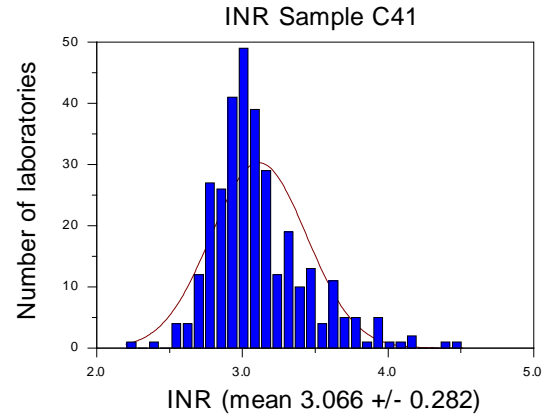
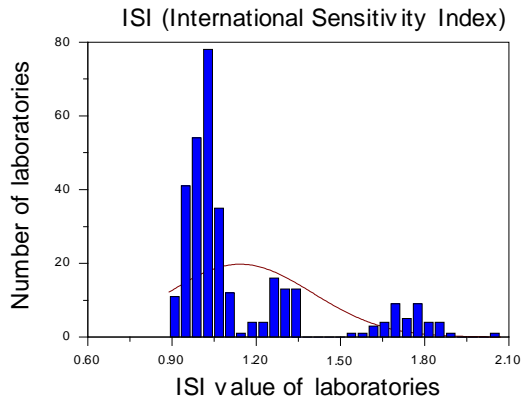
Specimen: C41 -----	Specimen: C42 -----	Specimen: C43 -----	Specimen: C44 -----	Specimen: C45 -----	Number -----	[Code] Instrument or Reagent -----
3.066 ± 0.282	4.204 ± 0.533	1.028 ± 0.061	1.039 ± 0.061	3.031 ± 0.271	n = 323	[---] All Methods & Instruments
<b>&lt;Instruments&gt;</b>						
3.090 ± 0.292	4.599 ± 0.872	1.000 ± 0.000	0.997 ± 0.005	3.109 ± 0.280	n = 3	[BBA] BBL Fibrometer
3.079 ± 0.096	4.066 ± 0.166	1.042 ± 0.051	1.100 ± 0.000	3.055 ± 0.177	n = 21	[BEB] Dade-Behring BCS,BCSXP
3.197 ± 0.014	4.462 ± 0.059	1.000 ± 0.054	0.985 ± 0.054	3.220 ± 0.072	n = 3	[BXE] Trinity Biotech MDA
3.649 ± 0.270	5.516 ± 0.445	0.999 ± 0.053	0.999 ± 0.044	3.659 ± 0.304	n = 32	[DGC] Diagnostica Stago STA Compa
3.611 ± 0.226	5.329 ± 0.282	1.028 ± 0.049	1.036 ± 0.055	3.497 ± 0.239	n = 15	[DGD] Diagnostica Stago STA-R, ST
3.207 ± 0.238	4.838 ± 0.407	0.981 ± 0.092	1.030 ± 0.074	3.146 ± 0.315	n = 18	[ILA] IL ACL(All models except 81
3.124 ± 0.161	4.290 ± 0.316	1.000 ± 0.069	0.996 ± 0.047	3.120 ± 0.193	n = 39	[ILC] IL ACL Futura/Advance
3.134 ± 0.203	4.312 ± 0.332	0.991 ± 0.061	1.008 ± 0.050	3.003 ± 0.186	n = 32	[ILD] IL ACL(ELITE,ELITE PRO,8/9
3.034 ± 0.178	4.131 ± 0.258	1.023 ± 0.051	1.020 ± 0.054	3.000 ± 0.185	n = 42	[ILE] IL ACL TOP Series (ACLTOP,A
2.917 ± 0.140	3.878 ± 0.207	1.066 ± 0.048	1.080 ± 0.034	2.898 ± 0.130	n = 36	[SYW] Sysmex CA500,540,560
2.886 ± 0.122	3.894 ± 0.177	1.052 ± 0.046	1.080 ± 0.033	2.880 ± 0.126	n = 58	[SYX] Sysmex CA 1500
2.868 ± 0.150	3.874 ± 0.226	1.084 ± 0.035	1.100 ± 0.000	2.852 ± 0.163	n = 15	[SYY] Sysmex CA 7000
<b>&lt;Reagents&gt;</b>						
3.625 ± 0.232	5.438 ± 0.406	1.007 ± 0.052	1.006 ± 0.048	3.611 ± 0.267	n = 46	[TA3] STA Neoplastine CL+
2.917 ± 0.142	3.905 ± 0.195	1.058 ± 0.048	1.085 ± 0.030	2.905 ± 0.147	n = 128	[TD2] Dade Innovin
3.127 ± 0.308	4.400 ± 0.566	1.012 ± 0.078	1.024 ± 0.084	3.059 ± 0.326	n = 5	[TD4] Dade Thromboplastin C+
3.160 ± 0.235	4.724 ± 0.454	0.952 ± 0.074	1.003 ± 0.076	3.111 ± 0.264	n = 34	[TJ2] HemosIL PT-Fibrinogen
3.094 ± 0.174	4.198 ± 0.253	1.021 ± 0.050	1.014 ± 0.047	3.042 ± 0.178	n = 91	[TJ8] HemosIL RecombiPlasTin 2G
3.205 ± 0.019	4.470 ± 0.072	1.014 ± 0.056	1.016 ± 0.061	3.159 ± 0.044	n = 3	[TK6] Trinity Biotech TriniCLOT
2.988 ± 0.086	4.039 ± 0.208	0.957 ± 0.069	0.965 ± 0.027	2.823 ± 0.179	n = 3	[TO4] HemosIL RecombiPlasTin
3.341 ± 0.742	5.345 ± 1.256	0.964 ± 0.132	0.976 ± 0.095	3.297 ± 0.590	n = 4	[TP2] Fisher/PH Thromboplastin D

New York State Department of Health - Wadsworth Center      Hematology Proficiency Test Event - February 7, 2011  
 Summary of Participant Responses  
 Mean ± One Standard Deviation

INR (International Normalized Ratio) - continued

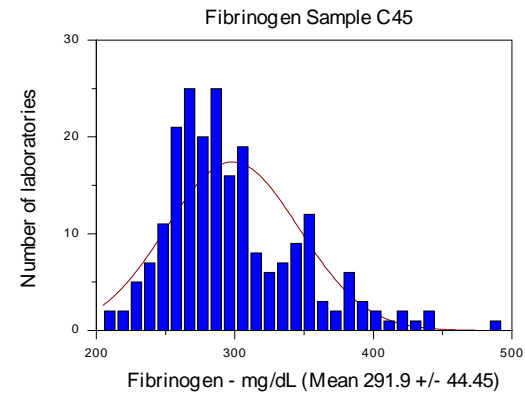
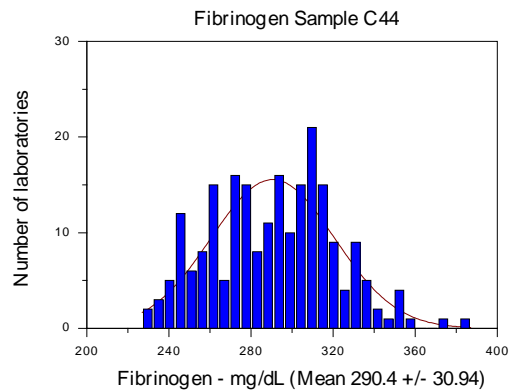
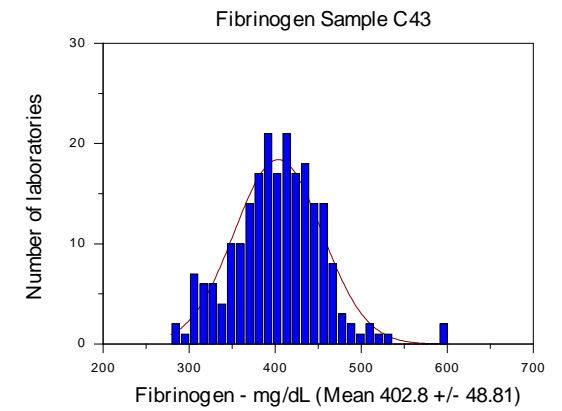
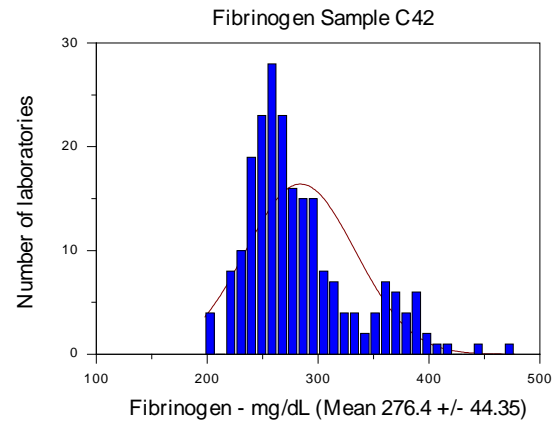
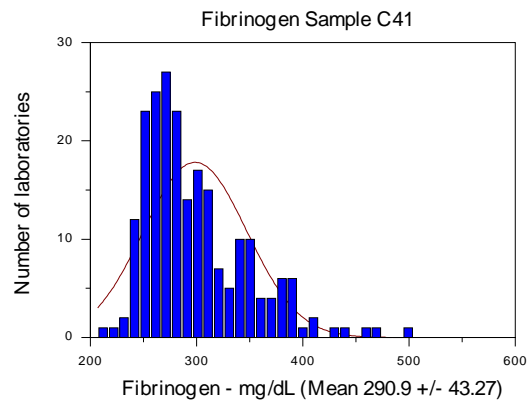
Specimen: C41	Specimen: C42	Specimen: C43	Specimen: C44	Specimen: C45	Number	[Code] Reagent & Instrument
3.649 ± 0.270	5.516 ± 0.445	0.999 ± 0.053	0.999 ± 0.044	3.659 ± 0.304	n = 32	[TA3]&[DGC] STA Neoplastin & Diagnostica St
3.603 ± 0.161	5.330 ± 0.278	1.026 ± 0.051	1.032 ± 0.055	3.531 ± 0.163	n = 13	[TA3]&[DGD] STA Neoplastin & Diagnostica St
3.072 ± 0.083	4.053 ± 0.156	1.041 ± 0.051	1.100 ± 0.000	3.034 ± 0.150	n = 19	[TD2]&[BEB] Dade Innovin & Dade-Behring B
2.910 ± 0.142	3.865 ± 0.195	1.067 ± 0.047	1.080 ± 0.035	2.900 ± 0.136	n = 34	[TD2]&[SYW] Dade Innovin & Sysmex CA500,5
2.884 ± 0.122	3.890 ± 0.176	1.053 ± 0.045	1.081 ± 0.032	2.879 ± 0.127	n = 57	[TD2]&[SYX] Dade Innovin & Sysmex CA 1500
2.868 ± 0.150	3.874 ± 0.226	1.084 ± 0.035	1.100 ± 0.000	2.852 ± 0.163	n = 15	[TD2]&[SYY] Dade Innovin & Sysmex CA 7000
3.221 ± 0.186	4.933 ± 0.349	0.988 ± 0.082	1.044 ± 0.067	3.180 ± 0.240	n = 14	[TJ2]&[ILA] HemosIL PT-Fib & IL ACL(All mod
3.104 ± 0.240	4.618 ± 0.379	0.920 ± 0.051	0.952 ± 0.068	3.150 ± 0.277	n = 12	[TJ2]&[ILC] HemosIL PT-Fib & IL ACL Futura/
3.107 ± 0.296	4.563 ± 0.520	0.938 ± 0.059	1.004 ± 0.062	2.946 ± 0.219	n = 7	[TJ2]&[ILD] HemosIL PT-Fib & IL ACL(ELITE,E
3.130 ± 0.128	4.209 ± 0.210	1.033 ± 0.044	1.009 ± 0.037	3.109 ± 0.150	n = 25	[TJ8]&[ILC] HemosIL Recomb & IL ACL Futura/
3.133 ± 0.176	4.276 ± 0.258	1.005 ± 0.053	1.009 ± 0.046	3.015 ± 0.180	n = 25	[TJ8]&[ILD] HemosIL Recomb & IL ACL(ELITE,E
3.041 ± 0.182	4.144 ± 0.257	1.023 ± 0.052	1.019 ± 0.055	3.009 ± 0.183	n = 40	[TJ8]&[ILE] HemosIL Recomb & IL ACL TOP Ser

**Hematology Proficiency Test Event**  
**February 7, 2011**  
**International Sensitivity Index (ISI) and International Normalized Ratio (INR)**





# Hematology Proficiency Test Event February 7, 2011 Fibrinogen Data

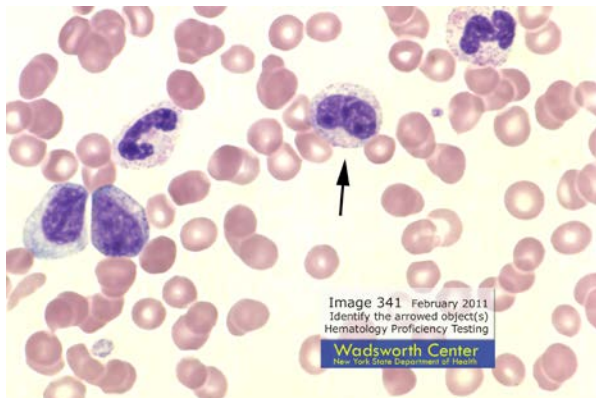


# NEW YORK STATE HEMATOLOGY PROFICIENCY TESTING PROGRAM

February 7, 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 341

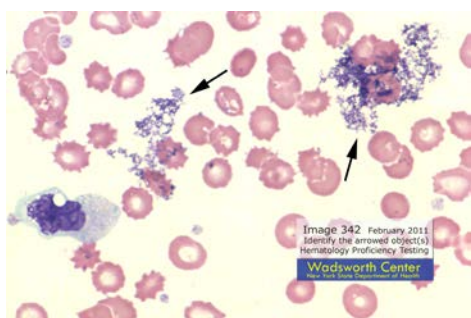


The nucleus of the arrowed cell in Image 341 is slightly indented and the chromatin is clumped. The cytoplasm is pink and contains fine granules. The cell, taken from a case of acute myelogenous leukemia, was correctly identified by 347 participants as a metamyelocyte.

“Normal metamyelocytes are smaller than myelocytes (diameter: 14-16  $\mu\text{m}$ ) and only slightly exceed the dimensions of band forms and segmented neutrophils. Metamyelocytes are incapable of division and lack the nucleoli, polysomes, and endoplasmic reticulum necessary for translation and continued protein synthesis”. Jandle, J.H. Blood: Textbook of Hematology 2nd. Ed. Boston: Little, Brown and Company, 1996, p.618.

Number of Responses	Percent of Laboratories	Cell type or finding
347	94.0%	Metamyelocyte
15	4.1%	Band neutrophil
3	0.8%	Segmented/band neutrophil with toxic granulation
3	0.8%	Neutrophil with Pelger-Huët nucleus
1	0.3%	Segmented neutrophil

## Image 342

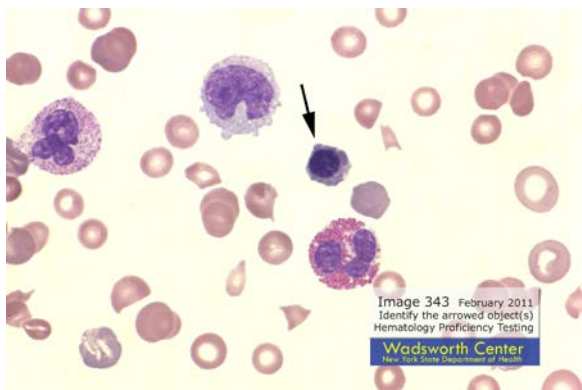


The arrowed bluish artifact in Image 342, obscuring some of the red blood cells, is precipitated stain as correctly identified by 99.5% of participants. In some instances clumps of stain precipitate may appear similar in appearance to bacteria or red blood cell inclusions and differentiation of these choices is essential. Stain precipitate appears as very intensely stained randomly shaped clumps or aggregates, bacteria or red cell inclusions on the other hand have specific morphological form.

Two participants identified the arrowed objects as platelet clumps. Platelet clumps are aggregates of individual platelets most commonly discovered by manual confirmation of a false low automated platelet count. Platelet clumping is caused by platelet-specific agglutinins and, more commonly, is related to the anticoagulant EDTA. An image of platelet clumping was administered to participants as an educational challenge in May 2004 (Image E09) <http://www.wadsworth.org/chemheme/heme/ptframes.htm>. The individual platelets that form the aggregate are clearly visible in Image E09 unlike the random shape of stain precipitate.

Number of Responses	Percent of Laboratories	Cell type or finding
367	99.5%	Stain precipitate
2	0.5%	Platelet clump(s)

### Image 343

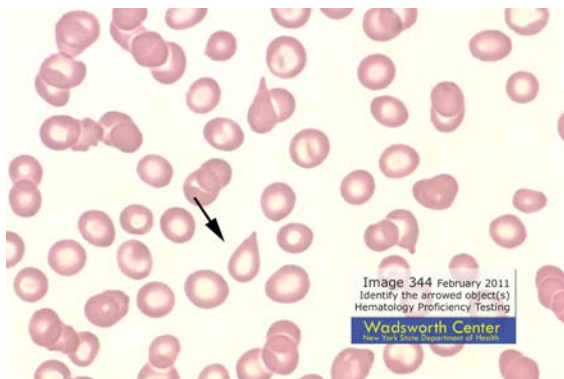


The nucleus of the arrowed cell in Image 343 is a homogeneous blue-black mass with no structure. The cytoplasm is mostly blue in color. The cell is a nucleated red blood cell and was correctly identified by all participants.

Nucleated red blood cells are usually seen in newborn infants and in patients with responses to hemolytic crisis. The diagnosis in this case, of which Image 343 was taken, is microangiopathic hemolytic anemia. There are many causes of microangiopathic hemolytic anemia some of which include disseminated intravascular coagulation (infections, obstetric disorders), malignant hypertension, chemotherapy-induced disease, thrombotic thrombocytopenic purpura, hemolytic uremic syndrome and immunologic vasculitis (disseminated lupus erythematosus, acute glomerulonephritis, homograft rejection).

Number of Responses	Percent of Laboratories	Cell type or finding
369	100%	Nucleated red cell

### Image 344



The arrowed cell in Image 344 is round on one end and elongated on the other, the elongated end is pointed forming the classic tear drop appearance. The cell in Image 344 was correctly identified as a tear drop cell (dacrocyte) by 367 participants. The presence of tear drop shaped red blood cells indicates conditions associated with an abnormal spleen or bone marrow where the cells become distorted as they maneuver out into the circulation. Such conditions include this case of thalassemia as well as myelofibrosis, pernicious anemia, hemolytic anemias and bone marrow infiltration by malignancy.

Number of Responses	Percent of Laboratories	Cell type or finding
367	99.5%	Tear drop cell (dacrocyte)
2	0.5%	Target cell (codocyte)

**Image 345**



The conspicuous nucleolus in the center of the nucleus of the arrowed cell in Image 345, in addition to the overall large size of the cell and the smooth chromatin, make identification of this cell as a blast cell the best choice.

Image 345 was taken from a suspected case of monocytic leukemia obtained from an 89 year-old female who presented with fever, ecchymoses and severe diarrhea. Laboratory data included an increased white blood cell count ( $34.0 \times 10^9/L$ ) and a decreased platelet count ( $12 \times 10^9/L$ ). Given the diagnosis of this case, the arrowed blast cell in Image 345 is likely a monoblast. Definitive diagnosis is almost impossible by examination of the peripheral

smear alone, therefore, acceptable responses included monoblast, myeloblast, lymphoblast and blast cell, not classified.

<b>Number of Responses</b>	<b>Percent of Laboratories</b>	<b>Cell type or finding</b>
<b>320</b>	<b>86.7%</b>	<b>Blast cell, not classified</b>
<b>7</b>	<b>1.9%</b>	<b>Monoblast</b>
<b>7</b>	<b>1.9%</b>	<b>Myeloblast</b>
31	8.4%	Reactive/Atypical lymphocyte
<b>4</b>	<b>1.1%</b>	<b>Lymphoblast</b>