



STATE OF NEW YORK DEPARTMENT OF HEALTH

Wadsworth Center

The Governor Nelson A. Rockefeller Empire State Plaza

P.O. Box 509

Albany, New York 12201-0509

Richard F. Daines, M.D.
Commissioner

James W. Clyne, Jr.
Executive Deputy Commissioner

To: Laboratory Directors and Laboratory Staff
From: Robert Rej, Ph.D.
Date: July 13, 2010
Subject: Results of June 7, 2010 Hematology Proficiency Test

Enclosed are results from the hematology proficiency testing survey shipped June 7, 2010. Five samples were distributed for each test category:

Routine Blood Counts (B31, B32, B33, B34, B35)
Routine Coagulation (C31, C32, C33, C34, C35- APTT, PT and Fibrinogen assays)
Cell Identification (331, 332, 333, 334, 335 - Images)
Educational Image, E15

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

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 10⁹/L)

Specimen: B31	Specimen: B32	Specimen: B33	Specimen: B34	Specimen: B35	Number	[Code] Instrument
4.84 ± 0.28	15.74 ± 1.06	9.93 ± 0.28	23.77 ± 1.03	4.12 ± 0.18	n = 406	[---] All Methods & Instruments
<Instruments>						
4.76 ± 0.13	15.47 ± 0.48	9.85 ± 0.31	23.53 ± 0.70	4.05 ± 0.08	n = 5	[ABF] Abbott Cell Dyn 3500
5.06 ± 0.47	16.21 ± 0.85	9.93 ± 0.31	23.42 ± 0.94	4.02 ± 0.20	n = 4	[ABG] Abbott Cell Dyn 1700
4.93 ± 0.25	16.86 ± 0.73	9.91 ± 0.38	24.55 ± 0.46	4.13 ± 0.08	n = 4	[ABJ] Abbott Cell Dyn 1800
4.94 ± 0.20	15.66 ± 0.40	9.93 ± 0.19	23.78 ± 0.50	4.11 ± 0.19	n = 14	[ABK] Abbott Cell Dyn 3200
4.85 ± 0.11	15.52 ± 0.40	9.89 ± 0.27	23.67 ± 0.71	4.09 ± 0.17	n = 15	[ABM] Abbott Cell Dyn 3700
4.73 ± 0.16	15.50 ± 0.35	9.81 ± 0.21	23.58 ± 0.42	4.02 ± 0.14	n = 13	[ABS] Abbott Cell Dyn Sapphire
4.84 ± 0.16	15.58 ± 0.35	9.95 ± 0.18	23.83 ± 0.50	4.09 ± 0.12	n = 20	[ABT] Abbott Cell Dyn Ruby
4.60 ± 0.21	15.53 ± 0.58	9.95 ± 0.34	23.45 ± 0.63	3.96 ± 0.15	n = 26	[BTD] Siemens (Bayer)Advia 120
4.64 ± 0.27	15.75 ± 0.78	9.99 ± 0.38	23.47 ± 1.09	4.02 ± 0.15	n = 18	[BTE] Siemens (Bayer)Advia 2120
5.43 ± 0.14	18.07 ± 0.05	10.00 ± 0.00	25.56 ± 0.56	4.30 ± 0.00	n = 3	[CUB] Coulter Maxm
5.21 ± 0.17	17.51 ± 0.47	9.89 ± 0.30	25.11 ± 1.16	4.21 ± 0.11	n = 6	[CUP] Coulter Gen-S
4.90 ± 0.00	16.20 ± 0.28	9.97 ± 0.21	24.49 ± 0.45	4.00 ± 0.05	n = 7	[CUS] Coulter ACT 5 diff
5.08 ± 0.17	16.92 ± 0.65	9.97 ± 0.23	24.49 ± 0.74	4.23 ± 0.12	n = 30	[CUT] Coulter ACT series,not ACT5
5.46 ± 0.20	18.22 ± 0.61	9.96 ± 0.24	25.58 ± 0.83	4.17 ± 0.10	n = 14	[CUW] Coulter HMX
4.68 ± 0.12	15.08 ± 0.31	9.96 ± 0.17	23.18 ± 0.51	4.22 ± 0.09	n = 80	[CUX] Coulter LH750,755
4.65 ± 0.11	14.89 ± 0.27	9.94 ± 0.09	23.09 ± 0.29	4.21 ± 0.10	n = 22	[CUI] Coulter LH 780
5.45 ± 0.15	18.47 ± 0.38	10.08 ± 0.21	25.67 ± 0.70	4.31 ± 0.14	n = 20	[CUZ] Coulter LH500
4.84 ± 0.09	16.22 ± 0.43	10.02 ± 0.22	24.54 ± 0.58	4.01 ± 0.05	n = 9	[ROB] ABX Pentra series
5.14 ± 0.10	16.87 ± 0.23	9.86 ± 0.10	24.19 ± 0.29	4.10 ± 0.09	n = 3	[ROC] ABX Micro
4.70 ± 0.13	14.87 ± 0.50	9.55 ± 0.30	23.00 ± 0.76	3.88 ± 0.15	n = 25	[SYO] Sysmex XE2100
4.63 ± 0.25	14.64 ± 0.11	9.36 ± 0.25	22.74 ± 0.42	3.85 ± 0.06	n = 6	[SYQ] Sysmex XE 2100D(Blood Center)
4.82 ± 0.16	15.24 ± 0.49	9.70 ± 0.44	23.24 ± 0.78	3.92 ± 0.17	n = 12	[SYA] Sysmex XE 5000
4.85 ± 0.12	15.85 ± 0.51	9.95 ± 0.29	24.04 ± 0.65	4.01 ± 0.13	n = 24	[SYI] Sysmex XT-series
5.03 ± 0.12	16.58 ± 0.25	10.38 ± 0.16	24.94 ± 0.42	4.18 ± 0.09	n = 11	[SYP] Sysmex XS-series

Summary of Participant Responses
Mean ± One Standard Deviation

Red Cell Count (x 10¹²/L)

Specimen: B31	Specimen: B32	Specimen: B33	Specimen: B34	Specimen: B35	Number	[Code] Instrument
3.010 ± 0.078	4.977 ± 0.097	4.528 ± 0.095	4.461 ± 0.089	4.506 ± 0.096	n = 404	[---] All Methods & Instruments
<Instruments>						
3.001 ± 0.038	4.983 ± 0.068	4.572 ± 0.082	4.416 ± 0.049	4.515 ± 0.050	n = 5	[ABF] Abbott Cell Dyn 3500
3.058 ± 0.063	5.079 ± 0.159	4.603 ± 0.159	4.574 ± 0.153	4.565 ± 0.140	n = 4	[ABG] Abbott Cell Dyn 1700
3.114 ± 0.092	5.015 ± 0.092	4.606 ± 0.081	4.564 ± 0.102	4.577 ± 0.114	n = 4	[ABJ] Abbott Cell Dyn 1800
3.101 ± 0.065	5.059 ± 0.084	4.607 ± 0.079	4.507 ± 0.093	4.602 ± 0.077	n = 14	[ABK] Abbott Cell Dyn 3200
3.033 ± 0.084	5.003 ± 0.102	4.560 ± 0.114	4.424 ± 0.115	4.539 ± 0.092	n = 15	[ABM] Abbott Cell Dyn 3700
3.029 ± 0.017	5.093 ± 0.084	4.611 ± 0.059	4.539 ± 0.049	4.579 ± 0.062	n = 13	[ABS] Abbott Cell Dyn Sapphire
3.060 ± 0.070	5.134 ± 0.109	4.626 ± 0.080	4.543 ± 0.098	4.598 ± 0.087	n = 20	[ABT] Abbott Cell Dyn Ruby
3.059 ± 0.053	4.982 ± 0.084	4.527 ± 0.056	4.481 ± 0.075	4.514 ± 0.061	n = 26	[BTD] Siemens (Bayer)Advia 120
3.052 ± 0.056	5.003 ± 0.092	4.540 ± 0.058	4.483 ± 0.083	4.538 ± 0.060	n = 18	[BTE] Siemens (Bayer)Advia 2120
3.038 ± 0.049	4.948 ± 0.050	4.445 ± 0.046	4.400 ± 0.045	4.435 ± 0.046	n = 3	[CUB] Coulter Maxm
2.929 ± 0.038	4.917 ± 0.055	4.465 ± 0.076	4.412 ± 0.062	4.425 ± 0.061	n = 6	[CUP] Coulter Gen-S
3.040 ± 0.044	5.019 ± 0.059	4.563 ± 0.056	4.537 ± 0.060	4.561 ± 0.062	n = 7	[CUS] Coulter ACT 5 diff
2.954 ± 0.055	4.921 ± 0.106	4.444 ± 0.075	4.412 ± 0.093	4.435 ± 0.078	n = 28	[CUT] Coulter ACT series,not ACT5
3.014 ± 0.063	4.970 ± 0.091	4.474 ± 0.057	4.444 ± 0.077	4.447 ± 0.054	n = 14	[CUW] Coulter HMX
2.941 ± 0.029	4.905 ± 0.044	4.461 ± 0.039	4.410 ± 0.044	4.438 ± 0.042	n = 80	[CUX] Coulter LH750,755
2.948 ± 0.035	4.904 ± 0.039	4.454 ± 0.036	4.402 ± 0.036	4.424 ± 0.035	n = 22	[CUI] Coulter LH 780
3.014 ± 0.060	4.969 ± 0.047	4.488 ± 0.064	4.437 ± 0.046	4.463 ± 0.053	n = 20	[CUZ] Coulter LH500
2.982 ± 0.059	5.038 ± 0.082	4.576 ± 0.075	4.543 ± 0.066	4.513 ± 0.062	n = 9	[ROB] ABX Pentra series
2.987 ± 0.023	5.039 ± 0.056	4.525 ± 0.045	4.504 ± 0.039	4.470 ± 0.046	n = 3	[ROC] ABX Micro
3.100 ± 0.025	5.029 ± 0.045	4.635 ± 0.031	4.544 ± 0.042	4.617 ± 0.042	n = 25	[SYO] Sysmex XE2100
3.115 ± 0.028	5.046 ± 0.030	4.629 ± 0.028	4.529 ± 0.032	4.606 ± 0.044	n = 6	[SYQ] Sysmex XE 2100D(Blood Center)
3.085 ± 0.023	5.020 ± 0.054	4.631 ± 0.029	4.554 ± 0.044	4.630 ± 0.041	n = 12	[SYA] Sysmex XE 5000
3.029 ± 0.036	4.992 ± 0.058	4.549 ± 0.053	4.454 ± 0.054	4.545 ± 0.056	n = 24	[SYI] Sysmex XT-series
2.962 ± 0.024	5.010 ± 0.043	4.551 ± 0.024	4.460 ± 0.031	4.522 ± 0.033	n = 11	[SYP] Sysmex XS-series

Summary of Participant Responses
Mean ± One Standard Deviation

Hemoglobin (g/dL)

Specimen: B31	Specimen: B32	Specimen: B33	Specimen: B34	Specimen: B35	Number	[Code] Instrument
9.15 ± 0.16	15.19 ± 0.26	13.74 ± 0.19	13.85 ± 0.27	13.81 ± 0.18	n = 422	[---] All Methods & Instruments
<Instruments>						
10.88 ± 0.04	18.25 ± 0.23	16.65 ± 0.12	16.84 ± 0.35	16.58 ± 0.20	n = 4	[HQB] HemoCue Donor Hb Checker
9.16 ± 0.25	15.02 ± 0.14	13.77 ± 0.16	13.66 ± 0.18	13.91 ± 0.19	n = 10	[HQC] HemoCue Hb201+/B-Hb
11.51 ± 0.38	19.85 ± 0.38	18.14 ± 0.35	17.85 ± 0.12	18.01 ± 0.11	n = 4	[HQD] HemoCue Hb 301
9.05 ± 0.08	15.22 ± 0.24	13.63 ± 0.20	13.99 ± 0.13	13.73 ± 0.21	n = 5	[ABF] Abbott Cell Dyn 3500
9.11 ± 0.20	15.40 ± 0.15	13.72 ± 0.26	14.07 ± 0.38	13.84 ± 0.23	n = 4	[ABG] Abbott Cell Dyn 1700
8.99 ± 0.38	15.35 ± 0.44	13.80 ± 0.49	14.20 ± 0.39	13.82 ± 0.42	n = 4	[ABJ] Abbott Cell Dyn 1800
9.44 ± 0.13	15.53 ± 0.23	13.99 ± 0.22	14.27 ± 0.21	14.07 ± 0.21	n = 14	[ABK] Abbott Cell Dyn 3200
9.33 ± 0.16	15.41 ± 0.26	13.78 ± 0.21	14.14 ± 0.24	13.82 ± 0.18	n = 15	[ABM] Abbott Cell Dyn 3700
9.26 ± 0.07	15.21 ± 0.19	13.80 ± 0.12	13.89 ± 0.14	13.87 ± 0.13	n = 13	[ABS] Abbott Cell Dyn Sapphire
9.20 ± 0.10	15.37 ± 0.22	13.68 ± 0.15	14.08 ± 0.22	13.68 ± 0.14	n = 20	[ABT] Abbott Cell Dyn Ruby
9.18 ± 0.09	14.99 ± 0.20	13.58 ± 0.19	13.69 ± 0.16	13.63 ± 0.18	n = 25	[BTD] Siemens (Bayer)Advia 120
9.16 ± 0.09	15.06 ± 0.15	13.55 ± 0.16	13.68 ± 0.20	13.54 ± 0.13	n = 19	[BTE] Siemens (Bayer)Advia 2120
9.33 ± 0.05	15.47 ± 0.23	13.76 ± 0.10	14.12 ± 0.15	13.84 ± 0.10	n = 3	[CUB] Coulter Maxm
9.05 ± 0.10	15.10 ± 0.19	13.75 ± 0.27	13.83 ± 0.17	13.75 ± 0.22	n = 6	[CUP] Coulter Gen-S
9.04 ± 0.13	15.09 ± 0.12	13.66 ± 0.09	13.80 ± 0.08	13.69 ± 0.12	n = 7	[CUS] Coulter ACT 5 diff
9.16 ± 0.17	15.30 ± 0.17	13.81 ± 0.16	13.97 ± 0.21	13.86 ± 0.14	n = 28	[CUT] Coulter ACT series,not ACT5
9.37 ± 0.12	15.51 ± 0.16	13.81 ± 0.18	14.13 ± 0.15	13.86 ± 0.16	n = 14	[CUW] Coulter HMX
9.11 ± 0.08	15.20 ± 0.15	13.79 ± 0.10	13.85 ± 0.16	13.86 ± 0.11	n = 80	[CUX] Coulter LH750,755
9.14 ± 0.09	15.19 ± 0.14	13.78 ± 0.13	13.82 ± 0.17	13.86 ± 0.15	n = 22	[CUY] Coulter LH 780
9.35 ± 0.15	15.49 ± 0.22	13.82 ± 0.20	14.17 ± 0.19	13.92 ± 0.18	n = 20	[CUZ] Coulter LH500
8.90 ± 0.11	15.19 ± 0.18	13.72 ± 0.14	13.83 ± 0.16	13.71 ± 0.15	n = 9	[ROB] ABX Pentra series
9.12 ± 0.15	14.97 ± 0.23	13.52 ± 0.24	13.76 ± 0.26	13.55 ± 0.19	n = 3	[ROC] ABX Micro
9.04 ± 0.10	14.96 ± 0.15	13.64 ± 0.14	13.57 ± 0.14	13.76 ± 0.14	n = 25	[SYO] Sysmex XE2100
9.09 ± 0.13	14.99 ± 0.16	13.72 ± 0.04	13.72 ± 0.13	13.79 ± 0.13	n = 5	[SYQ] Sysmex XE 2100D(Blood Center)
8.97 ± 0.11	14.87 ± 0.19	13.53 ± 0.14	13.48 ± 0.20	13.68 ± 0.12	n = 12	[SYA] Sysmex XE 5000
9.04 ± 0.10	14.93 ± 0.12	13.64 ± 0.15	13.58 ± 0.12	13.81 ± 0.14	n = 24	[SYI] Sysmex XT-series
8.99 ± 0.11	15.22 ± 0.13	13.77 ± 0.14	13.81 ± 0.13	13.85 ± 0.15	n = 11	[SYP] Sysmex XS-series

Summary of Participant Responses
Mean ± One Standard Deviation

Hematocrit (%)

Specimen: B31	Specimen: B32	Specimen: B33	Specimen: B34	Specimen: B35	Number	[Code] Instrument
25.95 ± 1.55	42.46 ± 2.20	38.58 ± 2.07	38.42 ± 2.16	38.86 ± 2.13	n = 411	[---] All Methods & Instruments
<Instruments>						
22.96 ± 0.92	38.71 ± 2.79	34.51 ± 1.33	34.22 ± 1.84	34.80 ± 1.25	n = 7	[MHC] Microhematocrit
26.32 ± 0.56	43.60 ± 1.17	40.00 ± 1.30	38.95 ± 0.92	40.04 ± 0.93	n = 5	[ABF] Abbott Cell Dyn 3500
26.95 ± 0.56	44.23 ± 1.13	40.08 ± 0.98	40.07 ± 1.26	40.28 ± 1.05	n = 4	[ABG] Abbott Cell Dyn 1700
26.82 ± 1.03	42.81 ± 0.97	39.31 ± 0.95	39.06 ± 1.19	39.50 ± 1.25	n = 4	[ABJ] Abbott Cell Dyn 1800
23.01 ± 0.48	37.50 ± 1.10	34.16 ± 1.01	33.71 ± 0.81	34.41 ± 0.98	n = 14	[ABK] Abbott Cell Dyn 3200
26.98 ± 0.69	44.32 ± 0.89	40.39 ± 0.77	39.62 ± 0.93	40.70 ± 0.96	n = 15	[ABM] Abbott Cell Dyn 3700
24.11 ± 0.29	40.30 ± 0.71	36.40 ± 0.55	36.11 ± 0.45	36.53 ± 0.57	n = 13	[ABS] Abbott Cell Dyn Sapphire
22.80 ± 0.57	38.07 ± 0.83	34.22 ± 0.52	33.78 ± 0.69	34.35 ± 0.63	n = 20	[ABT] Abbott Cell Dyn Ruby
23.35 ± 0.65	38.32 ± 1.03	34.67 ± 0.81	34.66 ± 0.93	34.95 ± 0.88	n = 26	[BTD] Siemens (Bayer)Advia 120
23.28 ± 0.65	38.28 ± 1.00	34.87 ± 0.83	34.70 ± 0.93	34.96 ± 0.96	n = 18	[BTE] Siemens (Bayer)Advia 2120
27.27 ± 0.42	43.73 ± 0.59	39.42 ± 0.32	39.41 ± 0.37	39.72 ± 0.32	n = 3	[CUB] Coulter Maxm
26.25 ± 0.61	43.47 ± 0.98	39.41 ± 0.86	39.52 ± 0.78	39.74 ± 0.92	n = 7	[CUP] Coulter Gen-S
25.05 ± 0.27	41.14 ± 0.51	37.47 ± 0.58	37.58 ± 0.34	37.43 ± 0.49	n = 7	[CUS] Coulter ACT 5 diff
26.31 ± 0.54	43.24 ± 1.00	39.03 ± 0.65	39.23 ± 1.02	39.44 ± 0.83	n = 28	[CUT] Coulter ACT series,not ACT5
26.78 ± 0.50	43.67 ± 0.70	39.39 ± 0.55	39.43 ± 0.71	39.63 ± 0.43	n = 14	[CUW] Coulter HMX
26.30 ± 0.36	43.47 ± 0.52	39.58 ± 0.46	39.64 ± 0.49	39.84 ± 0.48	n = 79	[CUX] Coulter LH750,755
26.26 ± 0.38	43.47 ± 0.58	39.45 ± 0.50	39.59 ± 0.55	39.70 ± 0.40	n = 23	[CUY] Coulter LH 780
26.60 ± 0.63	43.46 ± 0.67	39.34 ± 0.64	39.36 ± 0.61	39.60 ± 0.58	n = 20	[CUZ] Coulter LH500
24.95 ± 0.32	41.36 ± 0.69	37.92 ± 0.79	37.63 ± 0.69	37.76 ± 0.46	n = 8	[ROB] ABX Pentra series
25.78 ± 0.41	42.96 ± 0.67	38.83 ± 0.42	38.73 ± 0.51	38.87 ± 0.05	n = 3	[ROC] ABX Micro
27.15 ± 0.42	43.10 ± 0.63	39.47 ± 0.58	39.16 ± 0.67	39.97 ± 0.65	n = 25	[SYO] Sysmex XE2100
27.45 ± 0.31	43.30 ± 0.58	39.70 ± 0.53	39.24 ± 0.33	40.12 ± 0.48	n = 6	[SYQ] Sysmex XE 2100D(Blood Center)
27.01 ± 0.39	42.89 ± 0.62	39.45 ± 0.45	39.21 ± 0.53	40.03 ± 0.54	n = 12	[SYA] Sysmex XE 5000
26.95 ± 0.38	42.18 ± 0.60	38.53 ± 0.64	38.05 ± 0.64	39.08 ± 0.53	n = 24	[SYI] Sysmex XT-series
26.51 ± 0.21	42.65 ± 0.37	38.70 ± 0.25	38.36 ± 0.44	39.18 ± 0.38	n = 11	[SYP] Sysmex XS-series

Summary of Participant Responses
 Mean ± One Standard Deviation

Platelet Count (x 10⁹/L)

Specimen: B31	Specimen: B32	Specimen: B33	Specimen: B34	Specimen: B35	Number	[Code] Instrument
415.4 ± 34.68	534.7 ± 51.54	232.4 ± 20.93	754.5 ± 64.81	166.9 ± 16.81	n = 405	[---] All Methods & Instruments
<Instruments>						
440.7 ± 26.97	575.2 ± 37.54	254.4 ± 20.22	840.4 ± 61.80	188.6 ± 14.31	n = 5	[ABF] Abbott Cell Dyn 3500
422.3 ± 16.13	578.0 ± 24.23	255.0 ± 14.93	821.5 ± 56.78	176.4 ± 12.36	n = 4	[ABG] Abbott Cell Dyn 1700
415.6 ± 7.95	583.4 ± 23.66	243.3 ± 2.43	789.6 ± 27.71	173.0 ± 4.18	n = 4	[ABJ] Abbott Cell Dyn 1800
451.9 ± 24.58	596.1 ± 23.62	259.5 ± 11.16	808.7 ± 37.98	203.0 ± 6.10	n = 14	[ABK] Abbott Cell Dyn 3200
455.8 ± 23.82	573.9 ± 18.45	263.3 ± 14.97	833.3 ± 40.30	186.2 ± 11.35	n = 15	[ABM] Abbott Cell Dyn 3700
428.4 ± 15.32	531.8 ± 27.05	243.5 ± 8.81	761.3 ± 23.72	185.2 ± 8.49	n = 13	[ABS] Abbott Cell Dyn Sapphire
445.7 ± 20.47	608.6 ± 28.77	269.4 ± 12.90	828.1 ± 37.41	211.1 ± 17.01	n = 20	[ABT] Abbott Cell Dyn Ruby
479.2 ± 28.03	619.9 ± 30.07	259.6 ± 19.29	859.4 ± 44.34	190.9 ± 14.56	n = 26	[BTD] Siemens (Bayer)Advia 120
464.2 ± 22.68	609.6 ± 31.03	251.6 ± 14.62	835.7 ± 45.87	179.9 ± 12.50	n = 18	[BTE] Siemens (Bayer)Advia 2120
403.5 ± 8.19	510.4 ± 12.69	205.3 ± 5.97	679.7 ± 19.40	153.8 ± 8.77	n = 3	[CUB] Coulter Maxm
377.6 ± 12.19	496.6 ± 18.43	215.9 ± 7.37	677.7 ± 11.74	156.2 ± 7.17	n = 6	[CUP] Coulter Gen-S
455.9 ± 11.22	552.9 ± 14.89	245.5 ± 10.72	783.6 ± 22.27	178.6 ± 5.46	n = 7	[CUS] Coulter ACT 5 diff
407.6 ± 16.97	538.8 ± 25.19	223.4 ± 10.54	738.7 ± 35.87	157.9 ± 7.64	n = 29	[CUT] Coulter ACT series,not ACT5
396.3 ± 13.12	506.4 ± 10.42	215.2 ± 6.70	699.0 ± 20.68	154.9 ± 6.63	n = 14	[CUW] Coulter HMX
395.4 ± 10.51	509.7 ± 14.94	221.4 ± 5.84	702.4 ± 20.44	158.7 ± 4.96	n = 80	[CUX] Coulter LH750,755
399.3 ± 11.32	511.6 ± 15.35	224.0 ± 5.51	707.1 ± 18.18	160.0 ± 5.55	n = 22	[CUI] Coulter LH 780
404.1 ± 16.58	525.8 ± 18.21	219.3 ± 9.64	731.4 ± 21.13	155.9 ± 6.37	n = 20	[CUZ] Coulter LH500
447.9 ± 13.25	558.5 ± 21.24	252.1 ± 10.50	797.8 ± 23.71	175.5 ± 8.79	n = 9	[ROB] ABX Pentra series
452.2 ± 25.79	560.5 ± 28.95	251.7 ± 10.44	802.1 ± 31.25	177.6 ± 9.30	n = 3	[ROC] ABX Micro
373.9 ± 12.33	448.3 ± 21.47	212.7 ± 7.17	720.9 ± 26.36	153.8 ± 6.12	n = 25	[SYO] Sysmex XE2100
450.3 ± 6.16	567.5 ± 11.31	246.9 ± 5.21	833.1 ± 16.60	178.3 ± 1.68	n = 6	[SYQ] Sysmex XE 2100D(Blood Center)
366.9 ± 8.69	436.7 ± 13.43	212.5 ± 6.99	715.4 ± 21.87	153.8 ± 4.82	n = 12	[SYA] Sysmex XE 5000
417.7 ± 11.31	523.8 ± 12.58	237.7 ± 4.54	776.4 ± 21.10	166.4 ± 4.77	n = 24	[SYI] Sysmex XT-series
414.0 ± 11.86	518.1 ± 15.08	229.0 ± 6.41	783.7 ± 18.76	164.3 ± 7.68	n = 11	[SYP] Sysmex XS-series

Summary of Participant Responses
Mean ± One Standard Deviation

Prothrombin Time (seconds)

Specimen: C31	Specimen: C32	Specimen: C33	Specimen: C34	Specimen: C35	Number	[Code] Instrument or Reagent
11.36 ± 0.77	30.91 ± 5.04	11.45 ± 0.73	11.44 ± 0.74	41.34 ± 7.81	n = 324	[---] All Methods & Instruments
<Instruments>						
10.95 ± 0.90	23.39 ± 2.62	10.90 ± 0.81	10.90 ± 0.81	31.74 ± 6.72	n = 3	[BBA] BBL Fibrometer
10.94 ± 0.26	29.15 ± 0.81	11.30 ± 0.19	11.26 ± 0.18	38.72 ± 1.38	n = 21	[BEB] Dade-Behring BCS,BCSXP
12.17 ± 0.77	32.73 ± 1.30	11.59 ± 1.01	11.84 ± 1.03	43.96 ± 1.72	n = 3	[BXE] Trinity Biotech MDA
12.89 ± 0.36	36.27 ± 1.96	13.05 ± 0.33	12.98 ± 0.34	50.88 ± 3.28	n = 35	[DGC] Diagnostica Stago STA Compa
13.07 ± 0.29	36.58 ± 0.97	13.25 ± 0.23	13.24 ± 0.29	48.84 ± 4.33	n = 10	[DGD] Diagnostica Stago STA-R, ST
11.61 ± 0.27	22.61 ± 0.71	11.98 ± 0.38	11.99 ± 0.31	28.61 ± 1.09	n = 18	[ILA] IL ACL(All models except 81
11.48 ± 0.28	31.99 ± 7.15	11.33 ± 0.30	11.29 ± 0.30	42.68 ± 10.74	n = 45	[ILC] IL ACL Futura/Advance
11.08 ± 0.48	29.19 ± 4.08	11.26 ± 0.61	11.31 ± 0.64	38.35 ± 6.53	n = 35	[ILD] IL ACL(ELITE,ELITE PRO,8/9/
11.60 ± 0.30	34.95 ± 1.72	11.55 ± 0.37	11.53 ± 0.48	47.00 ± 2.48	n = 34	[ILE] IL ACL TOP Series (ACLTOP,A
10.81 ± 0.26	29.36 ± 1.35	10.95 ± 0.24	10.92 ± 0.29	39.00 ± 1.88	n = 37	[SYW] Sysmex CA500,540,560
10.88 ± 0.29	29.11 ± 1.15	11.10 ± 0.24	11.10 ± 0.25	38.69 ± 1.85	n = 55	[SYX] Sysmex CA 1500
11.30 ± 0.29	29.17 ± 1.38	11.45 ± 0.30	11.46 ± 0.27	38.40 ± 1.82	n = 14	[SYY] Sysmex CA 7000
14.19 ± 0.63	37.07 ± 1.36	14.51 ± 0.64	14.35 ± 0.56	51.85 ± 3.12	n = 4	[TRE] Trinity Biotech AMAX Destin
<Reagents>						
12.93 ± 0.35	36.40 ± 1.83	13.09 ± 0.32	13.02 ± 0.34	50.76 ± 3.08	n = 44	[TA3] STA Neoplastine CL+
10.89 ± 0.31	29.16 ± 1.21	11.11 ± 0.30	11.10 ± 0.31	38.70 ± 1.75	n = 125	[TD2] Dade Innovin
11.18 ± 0.24	20.74 ± 0.46	11.34 ± 0.25	11.40 ± 0.39	25.61 ± 0.68	n = 6	[TD4] Dade Thromboplastin C+
11.52 ± 0.31	22.75 ± 0.96	11.76 ± 0.45	11.73 ± 0.50	28.83 ± 1.56	n = 40	[TJ2] HemosIL PT-Fibrinogen
12.95 ± 0.27	37.85 ± 1.71	12.99 ± 0.29	12.90 ± 0.36	51.63 ± 3.47	n = 3	[TJ4] HemosIL PT-Fibrinogen HS+
11.41 ± 0.42	34.09 ± 2.96	11.32 ± 0.40	11.30 ± 0.44	45.84 ± 4.45	n = 86	[TJ8] HemosIL RecombiPlasTin 2G
14.16 ± 0.56	36.63 ± 1.48	14.58 ± 0.55	14.30 ± 0.49	50.91 ± 3.18	n = 5	[TK3] Trin Bio TriniCLOT PT Excel
12.67 ± 0.05	33.00 ± 0.46	12.33 ± 0.14	12.33 ± 0.14	44.80 ± 1.01	n = 3	[TK6] Trinity Biotech TriniCLOT P
10.95 ± 0.90	21.78 ± 1.41	10.93 ± 0.77	10.95 ± 0.72	28.09 ± 3.16	n = 3	[TP2] Fisher/PH Thromboplastin D

Summary of Participant Responses
 Mean ± One Standard Deviation

Prothrombin Time (seconds) - continued

Specimen: C31	Specimen: C32	Specimen: C33	Specimen: C34	Specimen: C35	Number	[Code] Reagent & Instrument
12.89 ± 0.36	36.27 ± 1.96	13.05 ± 0.33	12.98 ± 0.34	50.88 ± 3.28	n = 35	[TA3]&[DGC] STA Neoplastin & Diagnostica St
13.07 ± 0.28	36.57 ± 0.97	13.25 ± 0.23	13.23 ± 0.29	49.97 ± 1.91	n = 8	[TA3]&[DGD] STA Neoplastin & Diagnostica St
10.92 ± 0.24	29.15 ± 0.81	11.29 ± 0.19	11.24 ± 0.18	38.72 ± 1.38	n = 20	[TD2]&[BEB] Dade Innovin & Dade-Behring B
10.79 ± 0.26	29.30 ± 1.27	10.93 ± 0.23	10.90 ± 0.28	38.91 ± 1.78	n = 34	[TD2]&[SYW] Dade Innovin & Sysmex CA500,5
10.86 ± 0.27	29.11 ± 1.15	11.09 ± 0.24	11.09 ± 0.25	38.68 ± 1.84	n = 53	[TD2]&[SYX] Dade Innovin & Sysmex CA 1500
11.30 ± 0.29	29.17 ± 1.38	11.45 ± 0.30	11.46 ± 0.27	38.40 ± 1.82	n = 14	[TD2]&[SYY] Dade Innovin & Sysmex CA 7000
10.97 ± 0.14	23.69 ± 6.20	11.13 ± 0.23	11.18 ± 0.24	30.08 ± 8.83	n = 3	[TD4]&[SYW] Dade Thrombopl & Sysmex CA500,5
11.59 ± 0.24	22.67 ± 0.66	11.93 ± 0.29	11.95 ± 0.25	28.65 ± 1.13	n = 15	[TJ2]&[ILA] HemosIL PT-Fib & IL ACL(All mod
11.41 ± 0.24	23.18 ± 0.93	11.42 ± 0.14	11.30 ± 0.26	29.54 ± 1.33	n = 16	[TJ2]&[ILC] HemosIL PT-Fib & IL ACL Futura/
11.65 ± 0.51	21.87 ± 0.59	12.16 ± 0.45	12.25 ± 0.51	27.50 ± 1.73	n = 9	[TJ2]&[ILD] HemosIL PT-Fib & IL ACL(ELITE,E
11.54 ± 0.28	36.06 ± 2.42	11.30 ± 0.32	11.29 ± 0.33	48.74 ± 3.55	n = 26	[TJ8]&[ILC] HemosIL Recomb & IL ACL Futura/
10.94 ± 0.29	30.80 ± 1.51	11.05 ± 0.32	11.07 ± 0.36	40.97 ± 2.93	n = 26	[TJ8]&[ILD] HemosIL Recomb & IL ACL(ELITE,E
11.60 ± 0.30	34.95 ± 1.72	11.55 ± 0.37	11.53 ± 0.48	47.00 ± 2.48	n = 34	[TJ8]&[ILE] HemosIL Recomb & IL ACL TOP Ser
14.19 ± 0.63	37.07 ± 1.36	14.51 ± 0.64	14.35 ± 0.56	51.85 ± 3.12	n = 4	[TK3]&[TRE] Trin Bio Trini & Trinity Biotec

Summary of Participant Responses
Mean ± One Standard Deviation

Act Partial Thromboplastin Time (seconds)

Specimen: C31	Specimen: C32	Specimen: C33	Specimen: C34	Specimen: C35	Number	[Code] Instrument or Reagent
31.84 ± 2.37	56.80 ± 4.94	28.79 ± 1.27	28.74 ± 1.27	64.29 ± 4.41	n = 316	[---] All Methods & Instruments
<Instruments>						
29.15 ± 0.68	52.68 ± 1.71	27.31 ± 0.64	27.43 ± 0.62	57.26 ± 1.40	n = 21	[BEB] Dade-Behring BCS,BCSXP
29.10 ± 2.09	53.29 ± 4.73	25.96 ± 2.02	25.73 ± 2.06	66.58 ± 8.02	n = 3	[BXE] Trinity Biotech MDA
33.85 ± 1.16	55.67 ± 1.68	28.93 ± 0.84	28.99 ± 0.79	67.64 ± 1.58	n = 33	[DGC] Diagnostica Stago STA Compa
32.46 ± 2.07	52.71 ± 1.05	28.51 ± 1.25	28.50 ± 0.97	64.49 ± 0.64	n = 9	[DGD] Diagnostica Stago STA-R, ST
30.21 ± 0.84	54.63 ± 7.60	27.80 ± 0.93	27.67 ± 0.75	62.24 ± 5.78	n = 19	[ILA] IL ACL(All models except 81
32.86 ± 2.55	61.01 ± 6.27	28.78 ± 1.68	28.64 ± 1.72	66.27 ± 4.70	n = 45	[ILC] IL ACL Futura/Advance
31.83 ± 1.38	58.43 ± 3.93	28.73 ± 0.88	28.69 ± 0.87	64.08 ± 2.67	n = 33	[ILD] IL ACL(ELITE,ELITE PRO,8/9/
35.13 ± 1.15	61.84 ± 2.11	30.28 ± 0.95	30.20 ± 1.09	65.89 ± 2.06	n = 33	[ILE] IL ACL TOP Series (ACLTOP,A
30.48 ± 0.77	54.60 ± 2.26	28.41 ± 0.60	28.24 ± 0.58	61.20 ± 2.78	n = 34	[SYW] Sysmex CA500,540,560
31.25 ± 0.71	55.46 ± 1.54	29.13 ± 0.67	29.10 ± 0.63	63.29 ± 2.58	n = 55	[SYX] Sysmex CA 1500
31.31 ± 0.60	54.54 ± 2.09	29.08 ± 0.55	28.97 ± 0.37	61.42 ± 2.21	n = 12	[SYY] Sysmex CA 7000
32.62 ± 3.88	59.71 ± 4.35	30.08 ± 1.80	31.39 ± 1.93	75.37 ± 8.67	n = 4	[TRE] Trinity Biotech AMAX Destin
<Reagents>						
33.62 ± 1.22	55.13 ± 1.89	28.90 ± 0.77	28.91 ± 0.75	66.93 ± 2.09	n = 42	[AA2] Diagnostica Stago STA PTT-A
30.44 ± 1.34	73.77 ± 10.84	27.01 ± 1.23	26.91 ± 1.11	90.73 ± 14.10	n = 7	[AD2] Dade Actin
29.44 ± 1.09	94.30 ± 2.49	27.15 ± 0.57	27.30 ± 0.84	110.07 ± 2.20	n = 8	[AD3] Dade Actin FS
30.82 ± 1.05	54.76 ± 2.12	28.77 ± 0.85	28.71 ± 0.86	61.72 ± 3.45	n = 111	[AD4] Dade Actin FSL
29.64 ± 1.36	50.87 ± 1.49	27.24 ± 1.46	27.03 ± 1.36	59.32 ± 2.09	n = 32	[AJ3] HemosIL Test APTT-SP
30.08 ± 4.23	57.94 ± 4.80	27.74 ± 3.57	28.46 ± 4.03	69.84 ± 5.98	n = 9	[AK3] Trin Bio TriniCLOT aPTTS
28.47 ± 0.59	50.76 ± 0.74	25.60 ± 0.89	25.58 ± 1.19	61.58 ± 2.50	n = 4	[AK5] Trinity Biotech MDA Plateli
33.65 ± 1.83	61.94 ± 2.54	29.45 ± 1.12	29.38 ± 1.07	66.48 ± 2.54	n = 93	[AO4] HemosIL SynthASil
33.81 ± 0.99	62.91 ± 1.03	29.62 ± 0.36	29.10 ± 0.53	68.77 ± 0.94	n = 4	[AO5] HemosIL SynP4.6

**Summary of Participant Responses
Mean ± One Standard Deviation**

Act Partial Thromboplastin Time (seconds) - continued

Specimen: C31	Specimen: C32	Specimen: C33	Specimen: C34	Specimen: C35	Number	[Code] Reagent & Instrument
33.85 ± 1.16	55.67 ± 1.68	28.93 ± 0.84	28.99 ± 0.79	67.64 ± 1.58	n = 33	[AA2]&[DGC] Diagnostica St & Diagnostica St
33.21 ± 0.94	52.90 ± 0.73	28.98 ± 0.49	28.84 ± 0.43	64.48 ± 0.63	n = 7	[AA2]&[DGD] Diagnostica St & Diagnostica St
29.63 ± 0.87	94.98 ± 1.70	27.31 ± 0.27	27.38 ± 0.55	111.50 ± 1.38	n = 4	[AD3]&[SYX] Dade Actin FS & Sysmex CA 1500
29.10 ± 0.60	52.68 ± 1.71	27.37 ± 0.56	27.50 ± 0.60	57.26 ± 1.39	n = 16	[AD4]&[BEB] Dade Actin FSL & Dade-Behring B
30.47 ± 0.76	54.60 ± 2.26	28.45 ± 0.50	28.25 ± 0.58	61.20 ± 2.78	n = 31	[AD4]&[SYW] Dade Actin FSL & Sysmex CA500,5
31.32 ± 0.64	55.46 ± 1.53	29.22 ± 0.50	29.18 ± 0.47	63.29 ± 2.58	n = 49	[AD4]&[SYX] Dade Actin FSL & Sysmex CA 1500
31.31 ± 0.60	54.54 ± 2.09	29.08 ± 0.55	28.97 ± 0.37	61.42 ± 2.21	n = 12	[AD4]&[SYY] Dade Actin FSL & Sysmex CA 7000
30.04 ± 0.78	51.09 ± 1.37	27.69 ± 1.04	27.65 ± 0.78	60.20 ± 1.31	n = 13	[AJ3]&[ILA] HemosIL Test A & IL ACL(All mod
28.62 ± 0.74	49.98 ± 1.22	25.88 ± 1.24	25.61 ± 0.78	57.62 ± 1.60	n = 11	[AJ3]&[ILC] HemosIL Test A & IL ACL Futura/
30.95 ± 1.61	51.85 ± 1.25	27.98 ± 1.01	27.87 ± 1.00	60.28 ± 2.35	n = 8	[AJ3]&[ILD] HemosIL Test A & IL ACL(ELITE,E
32.62 ± 3.88	59.71 ± 4.35	30.08 ± 1.80	31.39 ± 1.93	75.37 ± 8.67	n = 4	[AK3]&[TRE] Trin Bio Trini & Trinity Biotec
30.64 ± 0.78	64.08 ± 3.08	27.99 ± 0.57	27.72 ± 0.64	69.35 ± 3.37	n = 5	[AO4]&[ILA] HemosIL SynthA & IL ACL(All mod
33.78 ± 1.04	63.56 ± 1.65	29.35 ± 0.95	29.32 ± 0.67	67.96 ± 1.88	n = 30	[AO4]&[ILC] HemosIL SynthA & IL ACL Futura/
32.12 ± 1.10	59.90 ± 1.89	28.97 ± 0.66	28.91 ± 0.69	64.87 ± 1.82	n = 25	[AO4]&[ILD] HemosIL SynthA & IL ACL(ELITE,E
35.13 ± 1.15	61.84 ± 2.11	30.28 ± 0.95	30.20 ± 1.09	65.89 ± 2.06	n = 33	[AO4]&[ILE] HemosIL SynthA & IL ACL TOP Ser
33.81 ± 0.99	62.91 ± 1.03	29.62 ± 0.36	29.10 ± 0.53	68.77 ± 0.94	n = 4	[AO5]&[ILC] HemosIL SynP4. & IL ACL Futura/

Summary of Participant Responses
Mean ± One Standard Deviation

Fibrinogen (mg/dL)

Specimen: C31 -----	Specimen: C32 -----	Specimen: C33 -----	Specimen: C34 -----	Specimen: C35 -----	Number -----	[Code] Instrument or Reagent -----
410.2 ± 51.31	300.8 ± 47.22	297.1 ± 32.87	296.7 ± 33.74	287.9 ± 50.28	n = 218	[---] All Methods & Instruments
<Instruments>						
469.1 ± 36.16	349.3 ± 29.65	339.0 ± 18.40	343.5 ± 16.49	330.7 ± 25.88	n = 20	[BEB] Dade-Behring BCS,BCSXP
439.8 ± 20.42	291.7 ± 13.00	307.0 ± 14.91	307.9 ± 17.54	276.2 ± 16.41	n = 28	[DGC] Diagnostica Stago STA Compa
447.7 ± 15.05	289.9 ± 11.18	305.4 ± 9.29	306.6 ± 11.85	273.3 ± 11.01	n = 10	[DGD] Diagnostica Stago STA-R, ST
406.7 ± 8.76	370.4 ± 24.56	320.7 ± 17.67	317.6 ± 9.32	358.2 ± 19.67	n = 4	[ILA] IL ACL(All models except 81
360.9 ± 63.86	372.1 ± 35.03	279.8 ± 37.08	280.2 ± 39.34	374.3 ± 26.13	n = 38	[ILC] IL ACL Futura/Advance
497.0 ± 75.52	364.6 ± 79.14	337.7 ± 24.86	340.3 ± 12.34	365.7 ± 94.74	n = 13	[ILD] IL ACL(ELITE,ELITE PRO,8/9/
413.4 ± 20.54	296.6 ± 18.67	311.2 ± 20.90	307.3 ± 20.02	281.5 ± 18.57	n = 30	[ILE] IL ACL TOP Series (ACLTOP,A
373.3 ± 31.55	253.0 ± 21.35	271.3 ± 20.51	262.2 ± 15.02	246.4 ± 20.46	n = 7	[SYW] Sysmex CA500,540,560
386.2 ± 18.94	261.7 ± 12.36	270.6 ± 11.98	272.0 ± 12.11	250.0 ± 11.88	n = 46	[SYX] Sysmex CA 1500
380.6 ± 21.37	267.9 ± 16.37	276.2 ± 14.49	277.5 ± 15.27	255.5 ± 13.65	n = 10	[SYY] Sysmex CA 7000
<Reagents>						
414.8 ± 30.44	396.3 ± 35.42	320.2 ± 24.29	324.6 ± 24.76	386.9 ± 36.84	n = 19	[TJ2] HemosIL PT-Fibrinogen
355.2 ± 50.58	345.1 ± 37.09	284.4 ± 39.32	282.9 ± 38.28	346.0 ± 52.51	n = 38	[TJ8] HemosIL RecombiPlasTin 2G
441.4 ± 19.55	290.8 ± 12.39	306.4 ± 13.06	307.7 ± 16.04	275.8 ± 15.16	n = 40	[FA4] Stago STA-Fibrinogen 5
477.0 ± 29.71	356.9 ± 18.92	342.2 ± 15.79	346.8 ± 10.21	337.5 ± 12.14	n = 17	[FB2] Behring Multifibren U
385.9 ± 21.72	263.2 ± 15.43	272.4 ± 13.60	272.6 ± 14.11	251.7 ± 14.34	n = 67	[FD2] Dade Fib (thrombin)
447.7 ± 52.21	293.1 ± 20.66	310.0 ± 27.89	307.4 ± 28.29	278.4 ± 22.62	n = 24	[FJ2] HemosIL Fibrinogen C,XL
390.9 ± 13.80	274.7 ± 13.97	285.8 ± 15.01	285.8 ± 14.06	254.5 ± 4.61	n = 3	[FM1] Kamiya K-Assay Fibrinogen

Summary of Participant Responses
 Mean ± One Standard Deviation

Fibrinogen (mg/dL) – continued

Specimen: C31	Specimen: C32	Specimen: C33	Specimen: C34	Specimen: C35	Number	[Code] Reagent & Instrument
406.7 ± 8.76	370.4 ± 24.56	320.7 ± 17.67	317.6 ± 9.32	358.2 ± 19.67	n = 4	[TJ2]&[ILA] HemosIL PT-Fib & IL ACL(All mod
423.0 ± 37.60	406.7 ± 29.16	322.0 ± 27.20	319.3 ± 26.10	388.4 ± 27.53	n = 11	[TJ2]&[ILC] HemosIL PT-Fib & IL ACL Futura/
419.0 ± 41.72	384.1 ± 45.11	324.9 ± 33.94	347.4 ± 17.61	408.0 ± 47.81	n = 4	[TJ2]&[ILD] HemosIL PT-Fib & IL ACL(ELITE,E
320.7 ± 17.41	362.9 ± 19.24	257.7 ± 13.43	256.0 ± 14.64	367.2 ± 15.36	n = 22	[TJ8]&[ILC] HemosIL Recomb & IL ACL Futura/
482.0 ± 81.14	503.3 ± 67.07	358.6 ± 41.79	363.5 ± 49.85	510.8 ± 86.21	n = 3	[TJ8]&[ILD] HemosIL Recomb & IL ACL(ELITE,E
403.9 ± 10.09	307.6 ± 12.51	321.8 ± 8.90	318.6 ± 9.47	288.6 ± 11.36	n = 13	[TJ8]&[ILE] HemosIL Recomb & IL ACL TOP Ser
439.8 ± 20.42	291.7 ± 13.00	307.0 ± 14.91	307.9 ± 17.54	276.2 ± 16.41	n = 28	[FA4]&[DGC] Stago STA-Fibr & Diagnostica St
447.7 ± 15.05	289.9 ± 11.18	305.4 ± 9.29	306.6 ± 11.85	273.3 ± 11.01	n = 10	[FA4]&[DGD] Stago STA-Fibr & Diagnostica St
477.0 ± 29.71	356.9 ± 18.92	342.2 ± 15.79	346.8 ± 10.21	337.5 ± 12.14	n = 17	[FB2]&[BEB] Behring Multif & Dade-Behring B
419.4 ± 19.46	290.8 ± 8.59	313.8 ± 18.55	304.2 ± 21.33	274.9 ± 12.03	n = 3	[FD2]&[BEB] Dade Fib (thro & Dade-Behring B
373.3 ± 31.55	253.0 ± 21.35	271.3 ± 20.51	262.2 ± 15.02	246.4 ± 20.46	n = 7	[FD2]&[SYW] Dade Fib (thro & Sysmex CA500,5
386.2 ± 18.94	261.7 ± 12.36	270.6 ± 11.98	272.0 ± 12.11	250.0 ± 11.88	n = 46	[FD2]&[SYX] Dade Fib (thro & Sysmex CA 1500
380.6 ± 21.37	267.9 ± 16.37	276.2 ± 14.49	277.5 ± 15.27	255.5 ± 13.65	n = 10	[FD2]&[SYY] Dade Fib (thro & Sysmex CA 7000
548.8 ± 31.68	317.8 ± 10.58	344.2 ± 5.99	339.2 ± 6.58	297.0 ± 7.52	n = 5	[FJ2]&[ILD] HemosIL Fibrin & IL ACL(ELITE,E
426.3 ± 25.10	286.7 ± 17.37	300.5 ± 23.05	295.9 ± 21.02	273.0 ± 22.63	n = 17	[FJ2]&[ILE] HemosIL Fibrin & IL ACL TOP Ser

Summary of Participant Responses
Mean ± One Standard Deviation

INR (International Normalized Ratio)

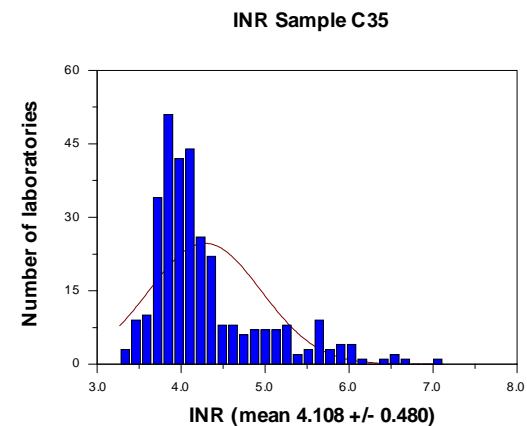
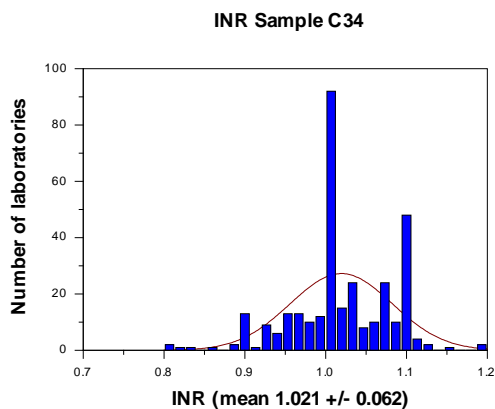
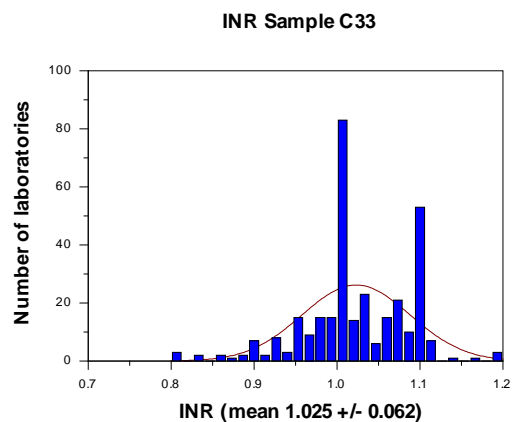
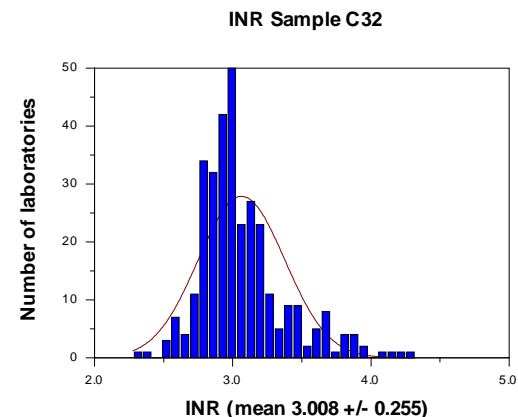
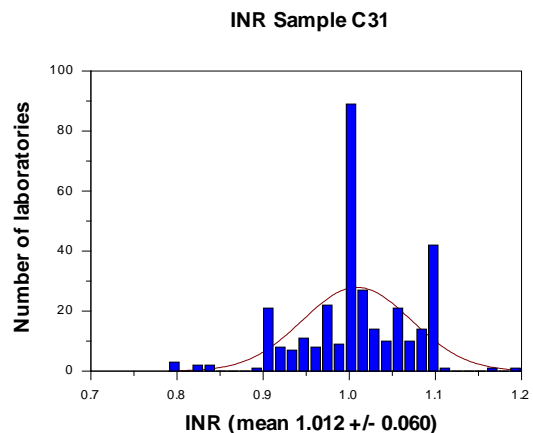
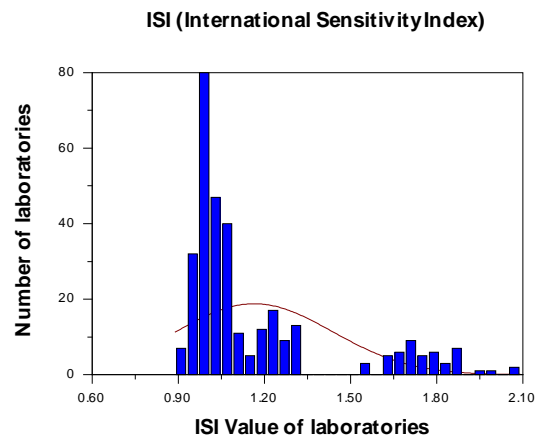
Specimen: C31 -----	Specimen: C32 -----	Specimen: C33 -----	Specimen: C34 -----	Specimen: C35 -----	Number -----	[Code] Instrument or Reagent -----
1.012 ± 0.060	3.008 ± 0.255	1.025 ± 0.062	1.021 ± 0.062	4.108 ± 0.480	n = 323	[---] All Methods & Instruments
<Instruments>						
1.000 ± 0.000	2.981 ± 0.332	0.992 ± 0.015	0.992 ± 0.015	4.531 ± 0.801	n = 3	[BBA] BBL Fibrometer
1.050 ± 0.056	3.103 ± 0.143	1.094 ± 0.044	1.078 ± 0.053	4.110 ± 0.224	n = 21	[BEB] Dade-Behring BCS,BCSXP
0.995 ± 0.019	3.247 ± 0.077	0.935 ± 0.045	0.964 ± 0.039	4.599 ± 0.081	n = 3	[BXE] Trinity Biotech MDA
0.984 ± 0.039	3.663 ± 0.245	0.993 ± 0.024	0.988 ± 0.035	5.659 ± 0.486	n = 35	[DGC] Diagnostica Stago STA Compa
0.989 ± 0.035	3.417 ± 0.287	0.996 ± 0.021	0.997 ± 0.011	5.004 ± 0.528	n = 10	[DGD] Diagnostica Stago STA-R, ST
0.963 ± 0.050	3.115 ± 0.164	1.000 ± 0.056	1.002 ± 0.061	4.609 ± 0.367	n = 19	[ILA] IL ACL(All models except 81
0.990 ± 0.063	3.097 ± 0.180	0.984 ± 0.047	0.978 ± 0.048	4.308 ± 0.371	n = 45	[ILC] IL ACL Futura/Advance
0.971 ± 0.060	2.924 ± 0.152	1.000 ± 0.051	1.004 ± 0.051	3.992 ± 0.230	n = 33	[ILD] IL ACL(ELITE,ELITE PRO,8/9/
1.005 ± 0.032	2.999 ± 0.133	1.008 ± 0.035	1.007 ± 0.046	4.024 ± 0.197	n = 34	[ILE] IL ACL TOP Series (ACLTOP,A
1.060 ± 0.043	2.916 ± 0.128	1.074 ± 0.038	1.062 ± 0.045	3.914 ± 0.191	n = 37	[SYW] Sysmex CA500,540,560
1.044 ± 0.044	2.867 ± 0.115	1.070 ± 0.035	1.067 ± 0.038	3.837 ± 0.181	n = 55	[SYX] Sysmex CA 1500
1.074 ± 0.042	2.824 ± 0.141	1.100 ± 0.000	1.100 ± 0.000	3.759 ± 0.174	n = 14	[SYZ] Sysmex CA 7000
0.970 ± 0.035	2.854 ± 0.076	0.980 ± 0.082	0.984 ± 0.032	4.228 ± 0.144	n = 4	[TRE] Trinity Biotech AMAX Destin
<Reagents>						
0.985 ± 0.037	3.631 ± 0.237	0.994 ± 0.022	0.989 ± 0.031	5.554 ± 0.493	n = 44	[TA3] STA Neoplastine CL+
1.054 ± 0.047	2.900 ± 0.155	1.077 ± 0.038	1.070 ± 0.042	3.872 ± 0.211	n = 124	[TD2] Dade Innovin
0.908 ± 0.092	2.920 ± 0.081	0.921 ± 0.096	0.942 ± 0.100	4.349 ± 0.417	n = 7	[TD4] Dade Thromboplastin C+
0.943 ± 0.055	3.083 ± 0.227	0.977 ± 0.058	0.975 ± 0.062	4.570 ± 0.434	n = 40	[TJ2] HemosIL PT-Fibrinogen
0.967 ± 0.042	3.172 ± 0.175	0.967 ± 0.042	0.960 ± 0.036	4.444 ± 0.182	n = 3	[TJ4] HemosIL PT-Fibrinogen HS+
1.006 ± 0.046	3.002 ± 0.152	1.006 ± 0.039	1.005 ± 0.043	4.043 ± 0.227	n = 84	[TJ8] HemosIL RecombiPlasTin 2G
0.987 ± 0.009	2.834 ± 0.062	0.984 ± 0.071	0.990 ± 0.026	4.167 ± 0.189	n = 5	[TK3] Trin Bio TriniCLOT PT Excel
1.002 ± 0.004	3.162 ± 0.101	0.986 ± 0.028	0.975 ± 0.039	4.540 ± 0.151	n = 4	[TK6] Trinity Biotech TriniCLOT P
1.011 ± 0.020	3.499 ± 0.607	1.005 ± 0.036	1.010 ± 0.046	5.645 ± 1.214	n = 3	[TP2] Fisher/PH Thromboplastin D

Summary of Participant Responses
 Mean ± One Standard Deviation

INR (International Normalized Ratio) - continued

Specimen: C31	Specimen: C32	Specimen: C33	Specimen: C34	Specimen: C35	Number	[Code] Reagent & Instrument
0.984 ± 0.039	3.663 ± 0.245	0.993 ± 0.024	0.988 ± 0.035	5.659 ± 0.486	n = 35	[TA3]&[DGC] STA Neoplastin & Diagnostica St
0.985 ± 0.029	3.494 ± 0.167	0.998 ± 0.009	0.995 ± 0.007	5.128 ± 0.266	n = 8	[TA3]&[DGD] STA Neoplastin & Diagnostica St
1.058 ± 0.053	3.099 ± 0.133	1.100 ± 0.000	1.087 ± 0.046	4.109 ± 0.227	n = 19	[TD2]&[BEB] Dade Innovin & Dade-Behring B
1.062 ± 0.043	2.911 ± 0.134	1.075 ± 0.038	1.063 ± 0.044	3.903 ± 0.176	n = 34	[TD2]&[SYW] Dade Innovin & Sysmex CA500,5
1.045 ± 0.043	2.864 ± 0.117	1.071 ± 0.034	1.068 ± 0.037	3.830 ± 0.174	n = 53	[TD2]&[SYX] Dade Innovin & Sysmex CA 1500
1.074 ± 0.042	2.824 ± 0.141	1.100 ± 0.000	1.100 ± 0.000	3.759 ± 0.174	n = 14	[TD2]&[SYY] Dade Innovin & Sysmex CA 7000
0.874 ± 0.108	2.946 ± 0.039	0.897 ± 0.113	0.903 ± 0.114	4.383 ± 0.313	n = 3	[TD4]&[SYW] Dade Thrombopl & Sysmex CA500,5
0.954 ± 0.049	3.098 ± 0.155	0.997 ± 0.063	1.001 ± 0.067	4.623 ± 0.385	n = 16	[TJ2]&[ILA] HemosIL PT-Fib & IL ACL(All mod
0.942 ± 0.061	3.149 ± 0.217	0.956 ± 0.048	0.944 ± 0.048	4.708 ± 0.355	n = 16	[TJ2]&[ILC] HemosIL PT-Fib & IL ACL Futura/
0.926 ± 0.050	2.895 ± 0.281	0.990 ± 0.054	0.996 ± 0.054	4.048 ± 0.110	n = 8	[TJ2]&[ILD] HemosIL PT-Fib & IL ACL(ELITE,E
1.019 ± 0.047	3.084 ± 0.158	1.002 ± 0.032	1.000 ± 0.029	4.134 ± 0.224	n = 26	[TJ8]&[ILC] HemosIL Recomb & IL ACL Futura/
0.986 ± 0.056	2.934 ± 0.130	1.004 ± 0.049	1.007 ± 0.049	3.959 ± 0.251	n = 25	[TJ8]&[ILD] HemosIL Recomb & IL ACL(ELITE,E
1.005 ± 0.033	2.998 ± 0.137	1.009 ± 0.037	1.007 ± 0.047	4.029 ± 0.199	n = 33	[TJ8]&[ILE] HemosIL Recomb & IL ACL TOP Ser
0.970 ± 0.035	2.854 ± 0.076	0.980 ± 0.082	0.984 ± 0.032	4.228 ± 0.144	n = 4	[TK3]&[TRE] Trin Bio Trini & Trinity Biotec

Hematology Proficiency Test Event
June 7, 2010
International Sensitivity Index (ISI) and International Normalized Ratio (INR)

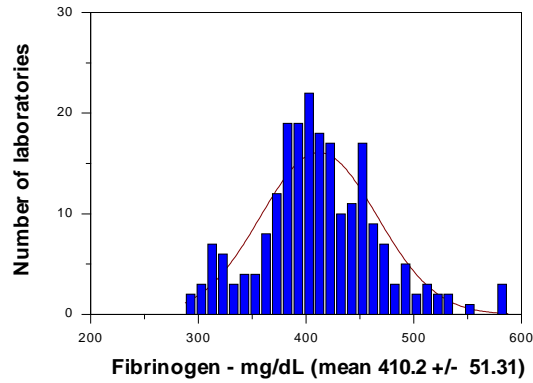


Hematology Proficiency Test Event

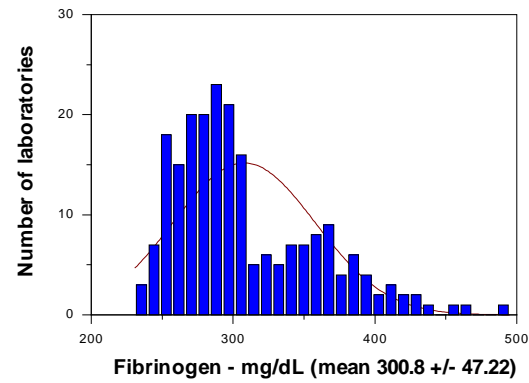
June 7, 2010

Fibrinogen Data

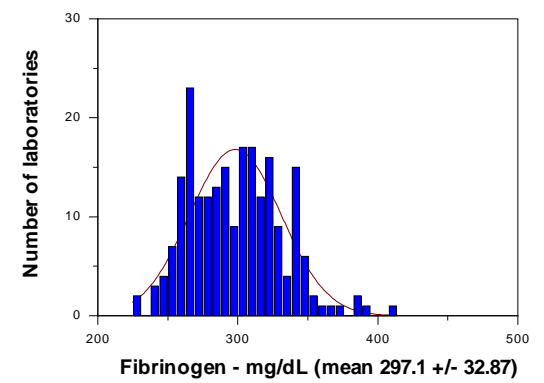
Fibrinogen Sample C31



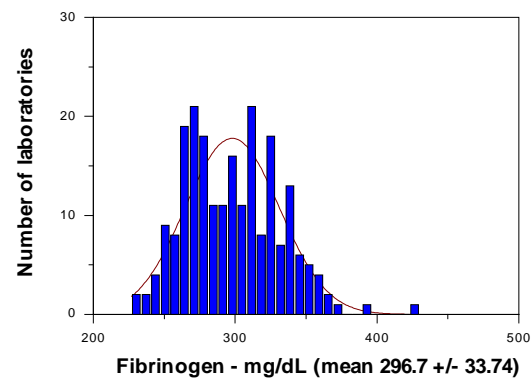
Fibrinogen Sample C32



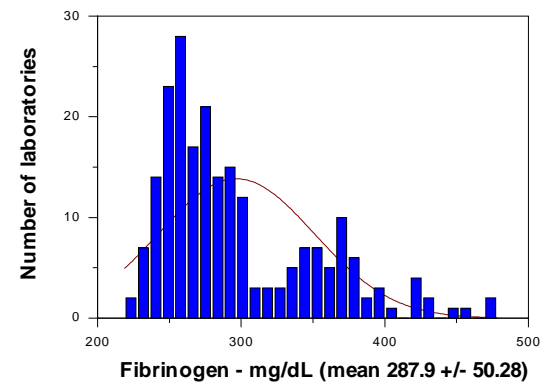
Fibrinogen Sample C33



Fibrinogen Sample C34



Fibrinogen Sample C35



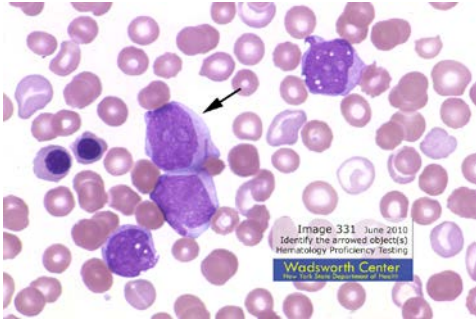
NEW YORK STATE HEMATOLOGY PROFICIENCY TESTING PROGRAM

June 7, 2010

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.

All images were taken from the peripheral blood smear of a 15 year-old female diagnosed with acute myelogenous leukemia (AML). The presence of mature neutrophilic precursors in the blast population was most consistent with the FAB classification AML- M2. At the time the case was obtained cytogenetic studies were pending, therefore, the WHO classification was not available.

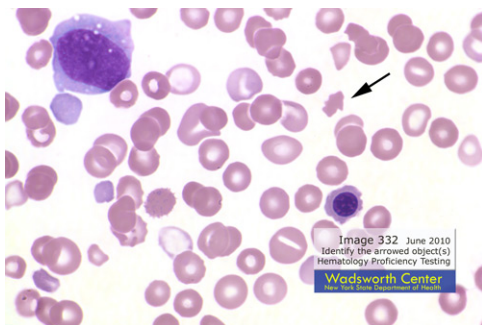
Image 331



The nucleus of the large arrowed cell in Image 331 displays fine nuclear chromatin and distinct nucleoli. The cytoplasm of this cell contains an Auer rod. The presence of an Auer rod is characteristic of a myeloblast and diagnostic of AML. Fifty-eight percent of participants correctly identified the arrowed cell as a myeloblast. Since laboratory protocols vary among participants, "Blast cell, not classified" was considered an acceptable response.

Number of Responses	Percent of Laboratories	Cell type or finding
213	58.4%	Myeloblast
140	38.4%	Blast cell, not classified
6	1.6%	Auer rod(s)
2	0.5%	Lymphoblast
2	0.5%	Monoblast
1	0.3%	Myelocyte
1	0.3%	Normal lymphocyte

Image 332

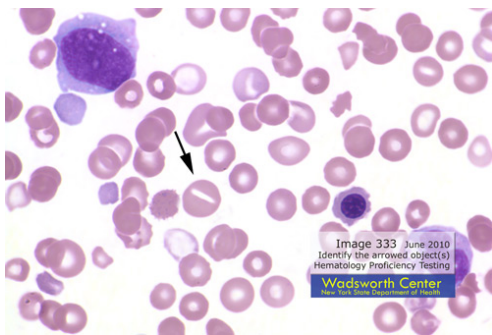


Normal red blood cell and platelet production are compromised in acute leukemia due to the numerous leukemic cells crowding the bone marrow space. As a result, anemia and thrombocytopenia would be expected and were observed; the hemoglobin was 9.5 g/dL and the platelet count was 27,000. The red blood cells in Image 332 are characteristic of anemia and included such findings as hypochromia, anisocytosis, polychromasia and poikilocytosis.

The arrowed cell in Image 332 is a schistocyte as correctly identified by 312 participants. The arrowed cell is not an acanthocyte. An acanthocyte has a spheroid shape and spiky, thorn-like projections.

Number of Responses	Percent of Laboratories	Cell type or finding
312	85.5%	Schistocyte
41	11.2%	Acanthocyte
12	3.3%	Echinocyte (crenated cell) or burr cell

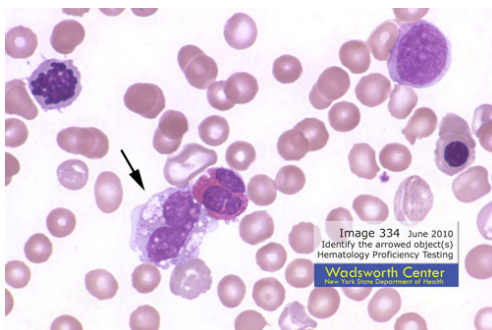
Image 333



The arrowed cell in Image 333 is a stomatocyte, characterized by the slit-like central pallor. Stomatocytes may be found in liver disease, electrolyte imbalance, and hereditary stomatocytosis.

Number of Responses	Percent of Laboratories	Cell type or finding
365	100%	Stomatocyte

Image 334



The arrowed cell in image 334 is a monocyte. “Monocytes, the largest blood cells, are round, measure 15 – 16 µm across, and have indented, often folded, nuclei. The nucleus- always corpulent, often kidney-shaped, and occupying about half the cell volume- has a loose, lacy network of chromatin strands. The reddish purple chromatin clumps are scattered throughout the nucleus and along the inner aspect of the nuclear membrane. There is no perinuclear halo. The ample cytoplasm is gray-blue and variably decorated with both fine and bold granules that are peroxidase positive.” Kapff, C.T and Jandle, J.H Blood: Atlas and Sourcebook of Hematology 2nd Ed. Boston: Little, Brown and Company, 1991, p.12

Number of Responses	Percent of Laboratories	Cell type or finding
355	97.3%	Monocyte
3	0.8%	Monoblast
2	0.5%	Metamyelocyte
2	0.5%	Segmented/band neutrophil with toxic granulation
1	0.3%	Blast cell, not classified
1	0.3%	Band neutrophil
1	0.3%	Segmented neutrophil

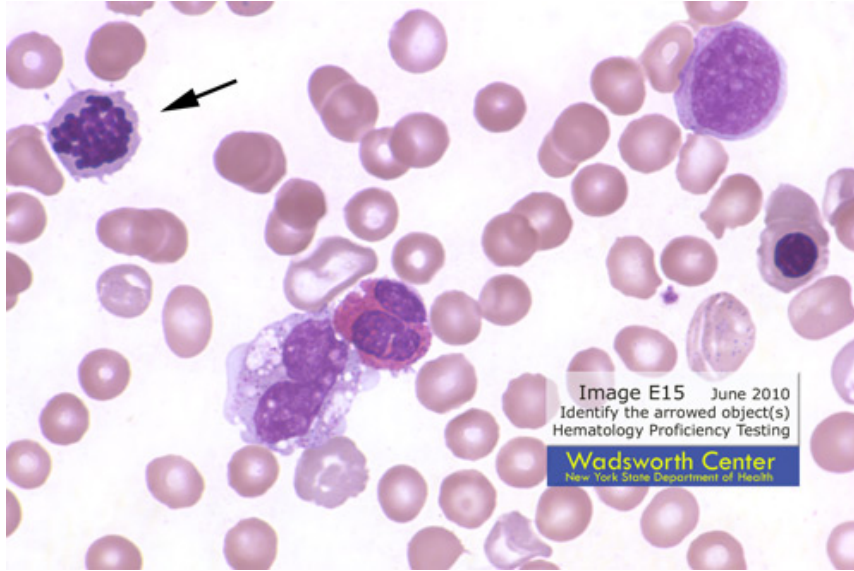
Image 335



The arrowed cell in Image 335 is a red blood cell that contains basophilic stippling. Basophilic stippling consists of round, dark-blue granules in red blood cells. The granules are precipitated ribosomal RNA. They may be observed in lead poisoning, exposure to some drugs, severe burns, septicemia or, as in this case, anemia.

Number of Responses	Percent of Laboratories	Cell type or finding
357	97.8%	Basophilic stippling
5	1.4%	Erythrocyte-polychromatophilic
2	0.5%	Erythrocyte-macrocytic
1	0.3%	Erythrocyte-hypochromic

Image E15



The arrowed cell in Image E15 is a cell in mitosis. Mitotic cells are rarely observed in the peripheral blood, their presence in a case of acute leukemia would not, however, be unexpected. The word mitosis comes from the Latin term mita which means “threads”. Mitosis is divided into a series of phases: prophase, metaphase, anaphase and telophase. During prophase, the first phase of mitosis, the “threads” or chromosomes are visible as in Image E15.

Number of Responses	Percent of Laboratories	Cell type or finding
196	54.1%	Mitotic cell, Cell in mitosis, Mitotic figure, Nucleated red blood cell in mitosis
82	22.7%	Nucleated red blood cell
17	4.7%	Dysplastic cell, Abnormal mitosis, Abnormal red blood cell
24	6.6%	Karyorrhexis, Nuclear fragmentation
5	1.4%	Blast cell
5	1.4%	Degenerated cell
5	1.4%	Rubricyte
4	1.1%	Erythrocyte - polychromatophilic
4	1.1%	Megakaryocyte, Platelet precursor
3	0.8%	Hypersegmentation
3	0.8%	Yeast - Fungus
2	0.6%	Smudge cell
2	0.6%	Hairy cell
1	0.3%	Erythroleukemia
1	0.3%	Immature red blood cell
1	0.3%	Lymphoma / Sézary cell
1	0.3%	Nucleated red blood cell - other
1	0.3%	Orthochromic megaloblast
1	0.3%	Parasite
1	0.3%	Prorubricyte
1	0.3%	Refer to Pathologist
1	0.3%	Reticulocyte (Group II)
1	0.3%	Rubeoblast