

Summary of Participant Performance (Mean and Standard Deviation)

Glucose (mg/dL)

Specimen: G91	Specimen: G92	Specimen: G93	Specimen: G94	Specimen: G95	Number	[Code]	Instrument
87.7 ± 3.63	160.2 ± 4.78	230.5 ± 7.04	266.0 ± 8.81	52.5 ± 2.95	n = 57	[]	All Instruments
89.4 ± 1.09	161.8 ± 2.97	233.7 ± 2.55	270.7 ± 3.37	51.8 ± 1.66	n = 5	[BYS]	Siemens Rapid Point 405
86.0 ± 0.75	155.3 ± 2.54	219.8 ± 3.68	254.8 ± 3.73	52.2 ± 2.58	n = 4	[BYT]	Siemens RapidLab 1200 Series
88.7 ± 1.37	159.6 ± 2.56	227.5 ± 11.02	268.4 ± 7.44	52.3 ± 0.51	n = 3	[IAA]	i-STAT
83.9 ± 1.13	156.4 ± 4.16	232.7 ± 1.21	266.3 ± 4.85	49.4 ± 2.09	n = 6	[MAA]	IL Gem Premier 3000
82.9 ± 1.88	157.4 ± 2.31	227.0 ± 5.35	264.9 ± 3.80	47.5 ± 0.57	n = 4	[MAC]	IL Gem Premier 4000
95.8 ± 2.53	167.3 ± 2.40	240.9 ± 5.22	278.8 ± 7.74	55.0 ± 2.62	n = 6	[NOG]	NOVA Critical Care Xpress
88.8 ± 1.45	162.0 ± 2.98	229.6 ± 4.85	265.5 ± 6.72	54.3 ± 0.97	n = 6	[RAN]	Radiometer ABL700 series
88.2 ± 2.37	159.5 ± 4.72	227.8 ± 6.14	261.8 ± 8.43	53.6 ± 1.62	n = 17	[RAP]	Radiometer ABL800 series

Sodium (mmol/L)

Specimen: G91	Specimen: G92	Specimen: G93	Specimen: G94	Specimen: G95	Number	[Code]	Instrument
110.2 ± 1.62	119.6 ± 2.16	132.9 ± 1.97	121.8 ± 1.52	152.0 ± 1.64	n = 73	[]	All Instruments
108.0 ± 0.00	117.0 ± 0.00	130.8 ± 0.49	119.8 ± 0.49	151.6 ± 1.00	n = 7	[BYS]	Siemens Rapid Point 405
108.9 ± 1.87	117.0 ± 0.00	130.0 ± 0.00	120.8 ± 0.80	149.0 ± 0.00	n = 5	[BYT]	Siemens RapidLab 1200 Series
110.5 ± 0.74	121.8 ± 0.92	135.6 ± 0.56	121.4 ± 0.56	153.8 ± 0.92	n = 7	[IAA]	i-STAT
109.2 ± 1.22	119.4 ± 1.22	133.3 ± 0.72	122.1 ± 1.13	153.8 ± 1.00	n = 6	[MAA]	IL Gem Premier 3000
110.8 ± 0.66	120.9 ± 1.01	134.0 ± 0.00	122.5 ± 0.74	151.0 ± 0.00	n = 7	[MAC]	IL Gem Premier 4000
110.2 ± 0.91	118.2 ± 1.41	131.2 ± 0.73	121.0 ± 0.00	152.0 ± 0.66	n = 6	[NOG]	NOVA Critical Care Xpress
111.2 ± 0.66	120.0 ± 0.82	133.2 ± 0.66	123.2 ± 0.66	152.0 ± 0.00	n = 7	[RAN]	Radiometer ABL700 series
110.9 ± 0.85	119.9 ± 0.67	133.5 ± 1.10	122.6 ± 0.79	152.3 ± 0.75	n = 17	[RAP]	Radiometer ABL800 series
111.0 ± 0.00	121.2 ± 1.27	132.9 ± 0.10	121.8 ± 0.36	150.6 ± 0.46	n = 3	[ROW]	Roche OMNI/Cobas series

Potassium (mmol/L)

Specimen: G91	Specimen: G92	Specimen: G93	Specimen: G94	Specimen: G95	Number	[Code]	Instrument
7.45 ± 0.15	2.53 ± 0.08	4.24 ± 0.08	3.40 ± 0.09	6.66 ± 0.11	n = 74	[]	All Instruments
7.50 ± 0.08	2.50 ± 0.00	4.25 ± 0.05	3.40 ± 0.00	6.69 ± 0.05	n = 8	[BYS]	Siemens Rapid Point 405
7.59 ± 0.18	2.40 ± 0.00	4.20 ± 0.00	3.35 ± 0.08	6.70 ± 0.10	n = 5	[BYT]	Siemens RapidLab 1200 Series
7.28 ± 0.05	2.50 ± 0.00	4.22 ± 0.05	3.30 ± 0.00	6.60 ± 0.00	n = 7	[IAA]	i-STAT
7.43 ± 0.05	2.42 ± 0.07	4.10 ± 0.00	3.30 ± 0.00	6.56 ± 0.09	n = 6	[MAA]	IL Gem Premier 3000
7.58 ± 0.09	2.48 ± 0.05	4.25 ± 0.07	3.38 ± 0.05	6.66 ± 0.09	n = 7	[MAC]	IL Gem Premier 4000
7.72 ± 0.12	2.60 ± 0.00	4.30 ± 0.06	3.50 ± 0.00	6.90 ± 0.06	n = 6	[NOG]	NOVA Critical Care Xpress
7.43 ± 0.07	2.60 ± 0.00	4.28 ± 0.05	3.48 ± 0.05	6.63 ± 0.07	n = 7	[RAN]	Radiometer ABL700 series
7.43 ± 0.08	2.60 ± 0.00	4.28 ± 0.06	3.47 ± 0.05	6.67 ± 0.07	n = 17	[RAP]	Radiometer ABL800 series
7.36 ± 0.05	2.50 ± 0.17	4.19 ± 0.02	3.25 ± 0.05	6.71 ± 0.02	n = 3	[ROW]	Roche OMNI/Cobas series

Summary of Participant Performance (Mean and Standard Deviation)

Chloride (mmol/L)

Specimen: G91	Specimen: G92	Specimen: G93	Specimen: G94	Specimen: G95	Number	[Code]	Instrument
73.3 ± 2.48	83.1 ± 2.39	97.6 ± 2.61	69.1 ± 2.69	116.0 ± 3.16	n = 44	[]	All Instruments
72.3 ± 0.51	84.0 ± 0.00	98.8 ± 0.73	68.0 ± 0.55	117.5 ± 1.02	n = 6	[BYS]	Siemens Rapid Point 405
74.3 ± 0.51	80.0 ± 0.90	93.0 ± 0.00	66.7 ± 0.51	110.3 ± 0.51	n = 3	[IAA]	i-STAT
76.0 ± 0.00	85.0 ± 0.00	100.2 ± 0.41	72.8 ± 0.41	120.0 ± 0.75	n = 4	[MAC]	IL Gem Premier 4000
77.4 ± 0.79	86.8 ± 0.91	101.3 ± 0.97	72.5 ± 1.46	120.2 ± 0.73	n = 6	[NOG]	NOVA Critical Care Xpress
72.0 ± 1.14	82.3 ± 0.90	96.8 ± 0.41	68.3 ± 0.90	115.3 ± 0.90	n = 4	[RAN]	Radiometer ABL700 series
71.6 ± 0.83	81.7 ± 0.83	96.1 ± 0.59	67.9 ± 0.80	114.3 ± 0.72	n = 12	[RAP]	Radiometer ABL800 series
73.1 ± 1.42	81.7 ± 0.94	95.0 ± 0.90	70.5 ± 3.63	111.8 ± 0.93	n = 3	[ROW]	Roche OMNI/Cobas series

Calcium, ionized (mmol/L)

Specimen: G91	Specimen: G92	Specimen: G93	Specimen: G94	Specimen: G95	Number	[Code]	Instrument
1.614 ± 0.052	1.134 ± 0.036	1.345 ± 0.037	0.933 ± 0.047	0.636 ± 0.068	n = 72	[]	All Instruments
1.578 ± 0.017	1.114 ± 0.006	1.313 ± 0.007	0.920 ± 0.008	0.603 ± 0.019	n = 7	[BYS]	Siemens Rapid Point 405
1.565 ± 0.044	1.106 ± 0.008	1.294 ± 0.017	0.974 ± 0.038	0.678 ± 0.068	n = 8	[BYT]	Siemens RapidLab 1200 Series
1.537 ± 0.009	1.107 ± 0.009	1.328 ± 0.004	0.852 ± 0.004	0.582 ± 0.004	n = 4	[IAA]	i-STAT
1.630 ± 0.007	1.126 ± 0.017	1.351 ± 0.020	0.895 ± 0.015	0.574 ± 0.023	n = 7	[MAA]	IL Gem Premier 3000
1.656 ± 0.021	1.158 ± 0.036	1.374 ± 0.018	0.923 ± 0.015	0.573 ± 0.007	n = 7	[MAC]	IL Gem Premier 4000
1.624 ± 0.052	1.122 ± 0.036	1.360 ± 0.008	0.929 ± 0.031	0.610 ± 0.027	n = 5	[NOG]	NOVA Critical Care Xpress
1.641 ± 0.021	1.158 ± 0.016	1.368 ± 0.022	0.967 ± 0.015	0.712 ± 0.017	n = 8	[RAN]	Radiometer ABL700 series
1.649 ± 0.019	1.168 ± 0.021	1.369 ± 0.018	0.970 ± 0.014	0.702 ± 0.023	n = 16	[RAP]	Radiometer ABL800 series
1.550 ± 0.015	1.088 ± 0.004	1.320 ± 0.018	0.853 ± 0.008	0.587 ± 0.008	n = 4	[ROW]	Roche OMNI/Cobas series

Lactate (mmol/L)

Specimen: G91	Specimen: G92	Specimen: G93	Specimen: G94	Specimen: G95	Number	[Code]	Instrument
3.67 ± 0.15	5.44 ± 0.23	6.37 ± 0.23	8.46 ± 0.48	1.85 ± 0.09	n = 38	[]	All Instruments
3.27 ± 0.97	4.70 ± 1.46	5.48 ± 1.60	7.28 ± 2.15	1.71 ± 0.53	n = 3	[BYT]	Siemens RapidLab 1200 Series
3.75 ± 0.06	5.56 ± 0.06	6.54 ± 0.08	8.99 ± 0.19	1.83 ± 0.05	n = 6	[MAA]	IL Gem Premier 3000
3.47 ± 0.05	5.13 ± 0.14	6.00 ± 0.09	8.27 ± 0.14	1.77 ± 0.05	n = 3	[MAC]	IL Gem Premier 4000
3.93 ± 0.14	5.87 ± 0.23	6.97 ± 0.23	9.07 ± 0.34	2.00 ± 0.09	n = 3	[NOG]	NOVA Critical Care Xpress
3.58 ± 0.16	5.37 ± 0.20	6.34 ± 0.17	8.15 ± 0.25	1.85 ± 0.08	n = 5	[RAN]	Radiometer ABL700 series
3.61 ± 0.08	5.35 ± 0.11	6.29 ± 0.12	8.17 ± 0.15	1.82 ± 0.04	n = 14	[RAP]	Radiometer ABL800 series

Summary of Participant Performance (Mean and Standard Deviation)

Pco2 (mmHg)

Specimen: G91	Specimen: G92	Specimen: G93	Specimen: G94	Specimen: G95	Number	[Code]	Instrument or Reagent System
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71.87 ± 4.79	51.28 ± 2.44	37.47 ± 1.60	31.12 ± 1.34	22.38 ± 1.08	n = 220	[]	All instruments
<Instruments>							
71.32 ± 2.31	51.77 ± 1.73	36.05 ± 1.91	32.21 ± 1.78	23.16 ± 1.68	n = 5	[AVQ]	Opti Medical OPTI CCA
79.38 ± 3.41	54.92 ± 2.35	39.34 ± 1.03	32.80 ± 1.20	23.52 ± 1.09	n = 37	[BYS]	Siemens Rapid Point 405
72.21 ± 2.04	50.58 ± 1.28	36.56 ± 1.01	30.24 ± 1.29	21.42 ± 0.84	n = 17	[BYT]	Siemens RapidLab 1200 Series
71.53 ± 1.67	52.31 ± 1.16	38.00 ± 0.36	31.70 ± 0.27	22.55 ± 0.36	n = 3	[COA]	Siemens RapidLab 845
64.51 ± 0.97	46.24 ± 0.91	33.19 ± 0.67	28.89 ± 0.59	20.88 ± 0.33	n = 17	[IAA]	i-STAT
75.94 ± 1.22	52.30 ± 1.18	37.75 ± 0.76	31.00 ± 0.52	21.67 ± 0.54	n = 19	[MAA]	IL Gem Premier 3000
71.85 ± 1.68	49.10 ± 1.12	36.00 ± 0.00	30.13 ± 0.50	21.66 ± 0.73	n = 13	[MAC]	IL Gem Premier 4000
74.73 ± 1.15	51.40 ± 0.79	37.40 ± 0.79	31.72 ± 0.51	22.72 ± 0.51	n = 6	[MAD]	IL Gem Premier 3500
64.44 ± 2.54	49.01 ± 1.89	36.47 ± 0.74	31.09 ± 0.92	22.61 ± 1.09	n = 8	[NOG]	NOVA Critical Care Xpress
71.90 ± 1.25	52.39 ± 1.23	37.79 ± 1.09	31.47 ± 1.44	22.72 ± 0.94	n = 10	[RAX]	Radiometer ABL 80 Flex
71.24 ± 1.44	51.68 ± 0.87	37.85 ± 0.85	32.15 ± 0.85	22.79 ± 1.02	n = 8	[RAJ]	Radiometer NPT7
69.94 ± 1.13	51.01 ± 0.75	37.50 ± 0.60	30.91 ± 0.44	22.63 ± 0.50	n = 22	[RAN]	Radiometer ABL700 series
69.84 ± 1.02	50.74 ± 0.73	37.44 ± 0.52	30.92 ± 0.36	22.55 ± 0.34	n = 39	[RAP]	Radiometer ABL800 series
74.04 ± 0.73	53.05 ± 0.34	39.16 ± 0.23	32.80 ± 0.08	23.75 ± 0.12	n = 5	[ROW]	Roche OMNI/Cobas series

Summary of Participant Performance (Mean and Standard Deviation)

pH

Specimen: G91	Specimen: G92	Specimen: G93	Specimen: G94	Specimen: G95	Number	[Code]	Instrument or Reagent System
7.128 ± 0.026	7.251 ± 0.014	7.425 ± 0.018	7.503 ± 0.022	7.617 ± 0.028	n = 220	[]	All Instruments
<Instruments>							
7.136 ± 0.010	7.250 ± 0.009	7.423 ± 0.013	7.496 ± 0.014	7.620 ± 0.021	n = 5	[AVQ]	Opti Medical OPTI CCA
7.097 ± 0.006	7.241 ± 0.006	7.419 ± 0.006	7.492 ± 0.006	7.609 ± 0.004	n = 37	[BYS]	Siemens Rapid Point 405
7.148 ± 0.008	7.272 ± 0.007	7.443 ± 0.006	7.516 ± 0.007	7.633 ± 0.004	n = 17	[BYT]	Siemens RapidLab 1200 Series
7.152 ± 0.000	7.274 ± 0.003	7.440 ± 0.000	7.516 ± 0.004	7.632 ± 0.001	n = 3	[COA]	Siemens RapidLab 845
7.179 ± 0.003	7.296 ± 0.005	7.465 ± 0.005	7.570 ± 0.002	7.685 ± 0.005	n = 17	[IAA]	i-STAT
7.108 ± 0.007	7.250 ± 0.008	7.437 ± 0.005	7.528 ± 0.004	7.650 ± 0.007	n = 19	[MAA]	IL Gem Premier 3000
7.103 ± 0.005	7.248 ± 0.005	7.429 ± 0.005	7.513 ± 0.005	7.632 ± 0.004	n = 13	[MAC]	IL Gem Premier 4000
7.106 ± 0.008	7.250 ± 0.000	7.440 ± 0.006	7.527 ± 0.005	7.654 ± 0.008	n = 6	[MAD]	IL Gem Premier 3500
7.165 ± 0.004	7.283 ± 0.004	7.444 ± 0.005	7.521 ± 0.005	7.621 ± 0.003	n = 8	[NOG]	NOVA Critical Care Xpress
7.140 ± 0.007	7.250 ± 0.000	7.412 ± 0.006	7.514 ± 0.010	7.591 ± 0.009	n = 10	[RAX]	Radiometer ABL 80 Flex
7.130 ± 0.010	7.247 ± 0.009	7.426 ± 0.011	7.500 ± 0.010	7.630 ± 0.008	n = 8	[RAJ]	Radiometer NPT7
7.131 ± 0.003	7.248 ± 0.004	7.410 ± 0.001	7.488 ± 0.004	7.595 ± 0.005	n = 22	[RAN]	Radiometer ABL700 series
7.129 ± 0.002	7.247 ± 0.004	7.411 ± 0.004	7.485 ± 0.004	7.594 ± 0.005	n = 39	[RAP]	Radiometer ABL800 series
7.142 ± 0.012	7.254 ± 0.007	7.410 ± 0.013	7.482 ± 0.007	7.575 ± 0.007	n = 5	[ROW]	Roche OMNI/Cobas series

Summary of Participant Performance (Mean and Standard Deviation)

Po2 (mmHg)

Specimen: G91	Specimen: G92	Specimen: G93	Specimen: G94	Specimen: G95	Number	[Code]	Instrument or Reagent System
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161.92 ± 6.84	142.07 ± 5.53	92.39 ± 5.58	216.45 ± 9.68	127.46 ± 4.99	n = 220	[]	All instruments
<Instruments>							
160.86 ± 4.32	141.89 ± 2.67	91.93 ± 1.91	215.91 ± 7.01	125.56 ± 3.44	n = 5	[AVQ]	Opti Medical OPTI CCA
156.63 ± 4.33	138.30 ± 2.54	92.43 ± 3.99	213.17 ± 7.27	125.36 ± 3.11	n = 37	[BYS]	Siemens Rapid Point 405
162.23 ± 4.95	140.14 ± 4.40	88.95 ± 4.48	222.15 ± 5.77	121.56 ± 4.20	n = 17	[BYT]	Siemens RapidLab 1200 Series
157.85 ± 7.46	134.85 ± 7.74	84.05 ± 2.46	213.65 ± 10.42	122.13 ± 2.32	n = 3	[COA]	Siemens RapidLab 845
164.32 ± 7.49	145.12 ± 7.40	101.47 ± 6.02	198.72 ± 9.52	128.76 ± 6.35	n = 17	[IAA]	i-STAT
171.07 ± 4.04	149.14 ± 4.32	90.17 ± 2.05	225.70 ± 5.81	132.01 ± 2.74	n = 19	[MAA]	IL Gem Premier 3000
167.44 ± 6.29	146.71 ± 3.41	92.52 ± 2.12	217.09 ± 6.26	130.77 ± 4.36	n = 13	[MAC]	IL Gem Premier 4000
170.31 ± 1.68	148.73 ± 1.38	89.90 ± 2.81	222.73 ± 5.28	131.70 ± 3.43	n = 6	[MAD]	IL Gem Premier 3500
165.55 ± 5.44	143.61 ± 3.88	87.97 ± 3.46	230.03 ± 11.39	128.95 ± 3.13	n = 8	[NOG]	NOVA Critical Care Xpress
152.94 ± 8.79	135.57 ± 2.31	82.03 ± 4.60	209.65 ± 15.98	119.25 ± 5.47	n = 10	[RAX]	Radiometer ABL 80 Flex
163.97 ± 2.93	141.17 ± 3.13	87.64 ± 1.47	218.64 ± 4.02	127.07 ± 2.79	n = 8	[RAJ]	Radiometer NPT7
158.48 ± 4.11	140.24 ± 2.91	92.29 ± 2.41	214.84 ± 5.36	126.69 ± 2.88	n = 22	[RAN]	Radiometer ABL700 series
161.19 ± 3.49	142.42 ± 2.57	95.70 ± 1.58	215.05 ± 5.80	129.08 ± 2.74	n = 39	[RAP]	Radiometer ABL800 series
167.99 ± 3.14	150.68 ± 2.45	107.92 ± 2.95	210.80 ± 5.48	131.16 ± 0.32	n = 5	[ROW]	Roche OMNI/Cobas series