

Summary of Participant Performance (Mean and Standard Deviation)

Glucose (mg/dL)

Specimen: G01	Specimen: G02	Specimen: G03	Specimen: G04	Specimen: G05	Number	[Code]	Instrument or Reagent System
158.9 ± 5.54	375.4 ± 14.83	228.0 ± 7.41	193.3 ± 5.93	51.7 ± 3.21	n = 61	[]	All Instruments
162.3 ± 3.56	385.8 ± 6.23	234.6 ± 3.37	194.7 ± 2.03	50.6 ± 2.88	n = 5	[BYS]	Siemens Rapid Point 405
154.5 ± 2.30	354.2 ± 3.42	219.7 ± 4.10	188.4 ± 2.31	52.5 ± 0.57	n = 4	[BYT]	Siemens RapidLab 1200 Series
156.7 ± 1.10	376.8 ± 2.97	227.8 ± 1.28	192.8 ± 1.66	50.8 ± 0.80	n = 5	[IAA]	i-STAT
154.1 ± 6.23	371.9 ± 10.58	224.9 ± 5.51	188.3 ± 2.18	46.3 ± 1.99	n = 6	[MAA]	IL Gem Premier 3000
155.0 ± 3.49	380.2 ± 14.78	224.8 ± 7.60	191.6 ± 8.31	48.1 ± 2.63	n = 4	[MAC]	IL Gem Premier 4000
155.7 ± 2.26	379.1 ± 9.19	224.7 ± 5.91	189.5 ± 3.63	45.3 ± 2.26	n = 3	[MAD]	IL Gem Premier 3500
167.3 ± 3.97	415.8 ± 12.77	240.7 ± 2.53	202.0 ± 3.39	53.5 ± 1.70	n = 6	[NOG]	NOVA Critical Care Xpress
161.9 ± 2.72	374.8 ± 4.62	229.5 ± 2.17	195.0 ± 2.88	53.3 ± 1.51	n = 4	[RAN]	Radiometer ABL700 series
159.2 ± 3.67	370.6 ± 11.19	225.8 ± 5.28	193.5 ± 5.24	53.0 ± 2.16	n = 20	[RAP]	Radiometer ABL800 series

Sodium (mmol/L)

Specimen: G01	Specimen: G02	Specimen: G03	Specimen: G04	Specimen: G05	Number	[Code]	Instrument or Reagent System
119.8 ± 2.05	150.1 ± 1.99	133.4 ± 2.20	128.6 ± 1.94	152.1 ± 1.79	n = 76	[]	All Instruments
116.4 ± 0.51	147.9 ± 0.91	130.4 ± 0.51	128.0 ± 5.41	150.7 ± 0.99	n = 7	[BYS]	Siemens Rapid Point 405
117.3 ± 0.51	144.6 ± 0.50	130.0 ± 0.00	125.8 ± 0.40	148.6 ± 0.75	n = 6	[BYT]	Siemens RapidLab 1200 Series
122.0 ± 0.00	151.8 ± 0.47	135.8 ± 0.66	130.8 ± 0.47	154.0 ± 0.00	n = 7	[IAA]	i-STAT
120.5 ± 0.74	151.6 ± 1.13	134.5 ± 1.14	129.3 ± 0.74	154.4 ± 1.13	n = 7	[MAA]	IL Gem Premier 3000
120.6 ± 0.94	149.9 ± 1.11	134.0 ± 0.00	129.4 ± 0.56	151.5 ± 1.14	n = 7	[MAC]	IL Gem Premier 4000
120.0 ± 0.90	152.4 ± 1.02	134.7 ± 1.37	129.7 ± 0.51	154.3 ± 1.37	n = 3	[MAD]	IL Gem Premier 3500
118.2 ± 0.73	149.5 ± 0.57	131.7 ± 0.51	126.8 ± 1.00	151.7 ± 0.72	n = 6	[NOG]	NOVA Critical Care Xpress
120.0 ± 0.00	150.0 ± 0.00	133.5 ± 0.57	129.0 ± 0.75	152.2 ± 0.41	n = 4	[RAN]	Radiometer ABL700 series
120.1 ± 0.80	150.3 ± 1.07	133.8 ± 1.09	128.9 ± 0.92	152.1 ± 1.01	n = 20	[RAP]	Radiometer ABL800 series
120.0 ± 0.90	149.4 ± 1.02	133.0 ± 0.00	128.0 ± 0.00	151.0 ± 0.00	n = 3	[ROW]	Roche OMNI/Cobas series

Potassium (mmol/L)

Specimen: G01	Specimen: G02	Specimen: G03	Specimen: G04	Specimen: G05	Number	[Code]	Instrument or Reagent System
2.53 ± 0.10	6.12 ± 0.14	4.23 ± 0.08	3.76 ± 0.08	6.65 ± 0.13	n = 72	[]	All Instruments
2.50 ± 0.00	6.10 ± 0.00	4.24 ± 0.06	3.79 ± 0.05	6.67 ± 0.05	n = 8	[BYS]	Siemens Rapid Point 405
2.42 ± 0.06	6.08 ± 0.06	4.20 ± 0.00	3.70 ± 0.00	6.68 ± 0.14	n = 6	[BYT]	Siemens RapidLab 1200 Series
2.54 ± 0.06	6.06 ± 0.06	4.20 ± 0.00	3.78 ± 0.05	6.60 ± 0.00	n = 7	[IAA]	i-STAT
2.42 ± 0.04	5.97 ± 0.05	4.12 ± 0.04	3.66 ± 0.07	6.53 ± 0.09	n = 8	[MAA]	IL Gem Premier 3000
2.40 ± 0.00	5.97 ± 0.05	4.17 ± 0.05	3.67 ± 0.05	6.50 ± 0.00	n = 3	[MAD]	IL Gem Premier 3500
2.60 ± 0.00	6.40 ± 0.00	4.33 ± 0.05	3.80 ± 0.00	6.97 ± 0.05	n = 6	[NOG]	NOVA Critical Care Xpress
2.60 ± 0.00	6.15 ± 0.06	4.30 ± 0.00	3.80 ± 0.00	6.65 ± 0.06	n = 4	[RAN]	Radiometer ABL700 series
2.60 ± 0.00	6.17 ± 0.09	4.28 ± 0.06	3.80 ± 0.00	6.66 ± 0.08	n = 20	[RAP]	Radiometer ABL800 series
2.33 ± 0.05	6.20 ± 0.00	4.17 ± 0.05	3.63 ± 0.05	6.80 ± 0.00	n = 3	[ROW]	Roche OMNI/Cobas series

Summary of Participant Performance (Mean and Standard Deviation)

Chloride (mmol/L)

Specimen: G01	Specimen: G02	Specimen: G03	Specimen: G04	Specimen: G05	Number	[Code]	Instrument or Reagent System
83.1 ± 2.74	128.6 ± 3.95	97.6 ± 3.00	90.5 ± 2.96	116.2 ± 3.67	n = 48	[]	All Instruments
83.2 ± 0.44	132.8 ± 0.82	99.0 ± 0.00	91.0 ± 0.00	118.0 ± 1.60	n = 6	[BYS]	Siemens Rapid Point 405
79.3 ± 0.90	126.7 ± 0.90	93.0 ± 0.00	85.8 ± 0.41	110.5 ± 0.57	n = 4	[IAA]	i-STAT
85.0 ± 0.00	127.7 ± 0.90	100.2 ± 1.27	93.0 ± 0.00	120.2 ± 0.41	n = 4	[MAC]	IL Gem Premier 4000
88.2 ± 1.45	133.8 ± 0.91	102.1 ± 1.23	94.7 ± 1.21	121.2 ± 0.73	n = 6	[NOG]	NOVA Critical Care Xpress
82.0 ± 0.75	127.0 ± 0.75	95.7 ± 0.90	88.7 ± 0.90	114.0 ± 0.75	n = 4	[RAN]	Radiometer ABL700 series
82.3 ± 1.11	127.2 ± 1.00	96.7 ± 1.04	89.6 ± 1.32	114.8 ± 0.92	n = 14	[RAP]	Radiometer ABL800 series
80.7 ± 0.51	122.3 ± 0.51	93.3 ± 0.51	87.0 ± 0.00	110.7 ± 0.51	n = 3	[ROW]	Roche OMNI/Cobas series

Calcium, ionized (mmol/L)

Specimen: G01	Specimen: G02	Specimen: G03	Specimen: G04	Specimen: G05	Number	[Code]	Instrument or Reagent System
1.136 ± 0.044	2.152 ± 0.083	1.348 ± 0.045	1.464 ± 0.058	0.637 ± 0.073	n = 74	[]	All Instruments
1.122 ± 0.014	2.105 ± 0.040	1.314 ± 0.018	1.427 ± 0.057	0.614 ± 0.024	n = 8	[BYS]	Siemens Rapid Point 405
1.100 ± 0.000	2.042 ± 0.055	1.281 ± 0.021	1.319 ± 0.028	0.659 ± 0.051	n = 10	[BYT]	Siemens RapidLab 1200 Series
1.105 ± 0.012	2.072 ± 0.026	1.320 ± 0.017	1.451 ± 0.019	0.572 ± 0.004	n = 4	[IAA]	i-STAT
1.124 ± 0.006	2.191 ± 0.063	1.367 ± 0.024	1.497 ± 0.017	0.567 ± 0.019	n = 6	[MAA]	IL Gem Premier 3000
1.144 ± 0.013	2.179 ± 0.023	1.367 ± 0.005	1.510 ± 0.000	0.569 ± 0.011	n = 7	[MAC]	IL Gem Premier 4000
1.127 ± 0.014	2.164 ± 0.047	1.351 ± 0.029	1.490 ± 0.018	0.567 ± 0.005	n = 3	[MAD]	IL Gem Premier 3500
1.086 ± 0.013	2.173 ± 0.040	1.347 ± 0.050	1.457 ± 0.045	0.600 ± 0.013	n = 5	[NOG]	NOVA Critical Care Xpress
1.173 ± 0.014	2.211 ± 0.013	1.376 ± 0.011	1.491 ± 0.018	0.717 ± 0.035	n = 5	[RAN]	Radiometer ABL700 series
1.189 ± 0.017	2.193 ± 0.025	1.377 ± 0.025	1.481 ± 0.033	0.721 ± 0.026	n = 19	[RAP]	Radiometer ABL800 series
1.104 ± 0.010	2.210 ± 0.009	1.340 ± 0.009	1.463 ± 0.005	0.590 ± 0.000	n = 3	[ROW]	Roche OMNI/Cobas series

Lactate (mmol/L)

Specimen: G01	Specimen: G02	Specimen: G03	Specimen: G04	Specimen: G05	Number	[Code]	Instrument or Reagent System
5.45 ± 0.29	9.76 ± 0.66	6.41 ± 0.35	4.61 ± 0.22	1.86 ± 0.10	n = 39	[]	All Instruments
5.59 ± 0.11	9.57 ± 0.25	6.47 ± 0.06	4.69 ± 0.15	1.99 ± 0.09	n = 3	[BYT]	Siemens RapidLab 1200 Series
5.37 ± 0.12	9.27 ± 0.22	6.30 ± 0.09	4.52 ± 0.14	1.78 ± 0.07	n = 6	[MAA]	IL Gem Premier 3000
4.93 ± 0.05	8.62 ± 0.15	5.73 ± 0.14	4.30 ± 0.00	1.73 ± 0.05	n = 3	[MAC]	IL Gem Premier 4000
5.42 ± 0.24	9.38 ± 0.41	6.36 ± 0.26	4.55 ± 0.19	2.61 ± 1.57	n = 3	[MAD]	IL Gem Premier 3500
5.79 ± 0.29	10.30 ± 0.09	6.79 ± 0.20	4.89 ± 0.20	2.00 ± 0.09	n = 3	[NOG]	NOVA Critical Care Xpress
5.13 ± 0.31	9.28 ± 0.77	6.01 ± 0.44	4.36 ± 0.26	1.87 ± 0.05	n = 3	[RAN]	Radiometer ABL700 series
5.52 ± 0.23	10.11 ± 0.42	6.51 ± 0.28	4.66 ± 0.17	1.86 ± 0.07	n = 17	[RAP]	Radiometer ABL800 series

Summary of Participant Performance (Mean and Standard Deviation)

Pco2 (mmHg)

Specimen: G01	Specimen: G02	Specimen: G03	Specimen: G04	Specimen: G05	Number	[Code]	Instrument or Reagent System
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51.49 ± 2.66	71.02 ± 3.71	37.40 ± 1.70	43.95 ± 1.86	22.53 ± 0.98	n = 220	[]	All Instruments
51.00 ± 0.00	69.61 ± 0.78	35.89 ± 0.95	43.49 ± 0.81	23.21 ± 0.82	n = 5	[AVQ]	Opti Medical OPTI CCA
55.26 ± 2.81	76.46 ± 3.16	39.32 ± 1.68	46.34 ± 1.63	23.42 ± 0.97	n = 36	[BYS]	Siemens Rapid Point 405
51.24 ± 1.04	71.64 ± 1.93	36.43 ± 1.01	42.79 ± 0.94	21.35 ± 0.81	n = 18	[BYT]	Siemens RapidLab 1200 Series
51.93 ± 0.95	73.71 ± 2.16	38.05 ± 0.36	44.35 ± 0.63	22.73 ± 0.05	n = 3	[COA]	Siemens RapidLab 845
46.50 ± 1.04	67.00 ± 1.81	33.95 ± 0.79	40.82 ± 0.74	21.57 ± 0.34	n = 17	[IAA]	i-STAT
53.06 ± 1.25	69.90 ± 2.24	37.64 ± 0.76	45.13 ± 1.05	22.05 ± 0.70	n = 20	[MAA]	IL Gem Premier 3000
50.80 ± 1.12	67.51 ± 1.77	35.82 ± 0.79	43.24 ± 0.49	21.64 ± 0.76	n = 13	[MAC]	IL Gem Premier 4000
52.75 ± 1.44	69.77 ± 1.95	37.15 ± 0.66	45.96 ± 0.70	22.15 ± 0.66	n = 7	[MAD]	IL Gem Premier 3500
48.69 ± 2.01	66.06 ± 3.72	36.77 ± 0.95	42.72 ± 1.08	22.88 ± 0.25	n = 8	[NOG]	NOVA Critical Care Xpress
52.66 ± 1.15	74.92 ± 2.23	38.61 ± 1.02	45.00 ± 1.18	22.93 ± 1.03	n = 13	[RAX]	Radiometer ABL 80 Flex
52.64 ± 1.09	71.00 ± 1.00	37.51 ± 0.83	44.24 ± 0.80	23.00 ± 1.00	n = 5	[RAJ]	Radiometer NPT7
50.50 ± 1.22	70.61 ± 2.10	37.61 ± 0.54	43.42 ± 0.93	22.53 ± 0.28	n = 15	[RAN]	Radiometer ABL700 series
50.56 ± 0.98	70.28 ± 1.52	37.47 ± 0.60	43.27 ± 0.69	22.68 ± 0.38	n = 43	[RAP]	Radiometer ABL800 series
52.41 ± 0.70	70.30 ± 1.34	39.48 ± 0.45	45.68 ± 0.78	23.67 ± 0.30	n = 5	[ROW]	Roche OMNI/Cobas series

Summary of Participant Performance (Mean and Standard Deviation)

pH

Specimen: G01	Specimen: G02	Specimen: G03	Specimen: G04	Specimen: G05	Number	[Code]	Instrument or Reagent System
7.254 ± 0.017	6.991 ± 0.023	7.426 ± 0.018	7.342 ± 0.016	7.616 ± 0.029	n = 220	[]	All Instruments
7.252 ± 0.008	7.032 ± 0.011	7.420 ± 0.000	7.334 ± 0.006	7.610 ± 0.000	n = 5	[AVQ]	Opti Medical OPTI CCA
7.243 ± 0.007	6.969 ± 0.011	7.423 ± 0.008	7.335 ± 0.006	7.611 ± 0.006	n = 36	[BYS]	Siemens Rapid Point 405
7.275 ± 0.005	7.007 ± 0.009	7.447 ± 0.004	7.363 ± 0.005	7.634 ± 0.006	n = 18	[BYT]	Siemens RapidLab 1200 Series
7.277 ± 0.005	7.007 ± 0.006	7.444 ± 0.003	7.363 ± 0.003	7.629 ± 0.003	n = 3	[COA]	Siemens RapidLab 845
7.288 ± 0.009	7.014 ± 0.010	7.454 ± 0.007	7.371 ± 0.005	7.675 ± 0.004	n = 17	[IAA]	i-STAT
7.257 ± 0.005	7.001 ± 0.013	7.438 ± 0.005	7.350 ± 0.000	7.651 ± 0.006	n = 20	[MAA]	IL Gem Premier 3000
7.240 ± 0.000	6.990 ± 0.000	7.424 ± 0.007	7.338 ± 0.005	7.629 ± 0.006	n = 13	[MAC]	IL Gem Premier 4000
7.256 ± 0.006	6.999 ± 0.016	7.442 ± 0.007	7.352 ± 0.007	7.652 ± 0.005	n = 7	[MAD]	IL Gem Premier 3500
7.282 ± 0.006	7.031 ± 0.012	7.440 ± 0.010	7.362 ± 0.007	7.615 ± 0.008	n = 8	[NOG]	NOVA Critical Care Xpress
7.249 ± 0.008	6.959 ± 0.005	7.408 ± 0.007	7.332 ± 0.009	7.579 ± 0.010	n = 13	[RAX]	Radiometer ABL 80 Flex
7.246 ± 0.006	6.996 ± 0.013	7.426 ± 0.011	7.340 ± 0.009	7.626 ± 0.006	n = 5	[RAJ]	Radiometer NPT7
7.248 ± 0.004	6.983 ± 0.005	7.409 ± 0.002	7.331 ± 0.003	7.591 ± 0.002	n = 15	[RAN]	Radiometer ABL700 series
7.247 ± 0.004	6.983 ± 0.006	7.410 ± 0.005	7.331 ± 0.004	7.591 ± 0.004	n = 43	[RAP]	Radiometer ABL800 series
7.260 ± 0.006	7.029 ± 0.010	7.404 ± 0.006	7.335 ± 0.008	7.565 ± 0.004	n = 5	[ROW]	Roche OMNI/Cobas series

Summary of Participant Performance (Mean and Standard Deviation)

Po2 (mmHg)

Specimen: G01	Specimen: G02	Specimen: G03	Specimen: G04	Specimen: G05	Number	[Code]	Instrument or Reagent System
142.50 ± 5.79	115.70 ± 5.40	92.49 ± 6.40	178.40 ± 7.18	127.58 ± 4.89	n = 220	[]	All Instruments
137.52 ± 4.30	112.31 ± 3.95	92.29 ± 2.89	173.49 ± 3.50	122.95 ± 3.93	n = 5	[AVQ]	Opti Medical OPTI CCA
141.12 ± 3.26	114.73 ± 3.91	93.78 ± 5.25	174.43 ± 6.03	126.50 ± 4.18	n = 36	[BYS]	Siemens Rapid Point 405
137.61 ± 3.90	110.41 ± 3.09	89.27 ± 3.88	179.30 ± 5.29	122.40 ± 3.58	n = 18	[BYT]	Siemens RapidLab 1200 Series
137.11 ± 5.13	111.81 ± 4.22	85.77 ± 2.40	172.27 ± 5.96	123.47 ± 4.55	n = 3	[COA]	Siemens RapidLab 845
144.07 ± 8.64	122.12 ± 4.14	100.21 ± 6.37	175.01 ± 10.04	127.80 ± 6.76	n = 17	[IAA]	i-STAT
147.56 ± 3.46	116.76 ± 2.77	89.80 ± 1.75	186.59 ± 3.92	130.51 ± 1.97	n = 20	[MAA]	IL Gem Premier 3000
147.42 ± 3.81	118.61 ± 4.97	94.30 ± 5.04	183.35 ± 4.98	130.02 ± 3.93	n = 13	[MAC]	IL Gem Premier 4000
147.95 ± 2.50	116.46 ± 2.14	89.60 ± 0.94	187.47 ± 4.17	130.56 ± 1.83	n = 7	[MAD]	IL Gem Premier 3500
141.64 ± 4.82	112.62 ± 3.73	86.66 ± 2.37	185.99 ± 5.57	127.32 ± 2.97	n = 8	[NOG]	NOVA Critical Care Xpress
134.91 ± 5.23	105.69 ± 3.76	80.32 ± 4.06	176.15 ± 3.37	120.06 ± 6.33	n = 13	[RAX]	Radiometer ABL 80 Flex
141.40 ± 3.59	109.66 ± 5.54	83.43 ± 5.08	176.58 ± 6.40	124.55 ± 4.79	n = 5	[RAJ]	Radiometer NPT7
141.46 ± 2.13	115.70 ± 1.85	92.85 ± 1.86	176.53 ± 4.92	127.20 ± 2.49	n = 15	[RAN]	Radiometer ABL700 series
142.82 ± 3.01	117.95 ± 2.51	95.17 ± 2.55	176.56 ± 3.79	129.36 ± 2.99	n = 43	[RAP]	Radiometer ABL800 series
149.75 ± 3.12	134.84 ± 3.31	108.94 ± 2.86	180.84 ± 5.51	133.06 ± 2.61	n = 5	[ROW]	Roche OMNI/Cobas series