DxC600/CX INSTRUMENTS CALIBRATION VERIFICATION - 9/2006

Synchron Control Level 1 lot #M511371	Vigil Serology Control Level 1 lot#M504291	D1 Control lot#M412331 MHC/Fin
Synchron Control Level 2 lot #M511372	Vigil Serology Control Level 2 lot#M409332	D1 Control lot#M505211 Dyersville
Synchron Control Level 3 lot #M511373	Vigil Serology Control Level 3 lot#M504293	D2 Control lot#M505212
Amm/Alc Control Level 1 lot #M508421 Fin		D3 Control lot#M505213
Amm/Alc Control Level 1 lot #M508421 MHC		
Amm/Alc Control Level 2 lot #M508422 Fin		
Amm/Alc Control Level 2 lot #M508423 MHC		
Amm/Alc Control Level 3 lot #M406493	HbA1c Calibrator 2 lot #M602005	T4 Low Cal lot#56384229
Biorad Multiqual Liquid Assayed Level 1 lot#45531		T4 High Cal lot #56384229
Biorad Multiqual Liquid Assayed Level 2 lot#45532		
Biorad Multiqual Liquid Assayed Level 3 lot#45533		

Again, the tolerances are pretty wide but, with the exception of the ACL 9000 Protime, recovered results are running to the middle of the ranges. More importantly, we continue to show excellent intersite agreement.
sraymond 20061010

Ranges were obtained from control package inserts for the Beckman DxC Instruments.

Beckman Synchron Controls

Site	MAE	MAW	MHC	Finley	Dyer		MAE	MAW	MHC	Finley	Dyer		MAE	MAW	MHC	Finley	Dyer	
Level	Level 1	Level 1	Level 1	Level 1	Level 1	*Level 1*	Level 2	Level 2	Level 2	Level 2	Level 2	*Level 2*	Level 3	Level 3	Level 3	Level 3	Level 3	*Level 3*
Assay	Result	Result	Result	Result	Result	*Range*	Result	Result	Result	Result	Result	*Range*	Result	Result	Result	Result	Result	*Range*
Albumin	NA	NA	2.3	2.3	2.3	*1.9-2.7*	NA	NA	3.8	3.7	3.7	*3.3-4.1*	NA	NA	5.2	5.2	5.2	*4.5-5.7*
ALP	NA	NA	40	41	39	*30-50*	NA	NA	155	155	151	*128-178*	NA	NA	270	267	261	*226-306*
ALT	NA	NA	16	16	17	*13-23*	NA	NA	163	163	157	*137-197*	NA	NA	308	306	293	*284-348*
Amylase	NA	NA	45	43	44	*36-56*	NA	NA	219	220	220	*193-253*	NA	NA	394	395	391	*362-442*
AST	NA	NA	21	22	22	*17-27*	NA	NA	197	196	189	*173-223*	NA	NA	354	350	340	*300-420*
BUN3	7	7	NA	NA	NA	*5-9.0*	33	33	NA	NA	NA	*28-36*	60	61	NA	NA	NA	*52-64*
BUN	NA	NA	8	8	8	*6.0-10.0*	NA	NA	36	36	36	*32-40*	NA	NA	64	62	64	*57-69*
Calcium	7.8	8.1	7.6	7.6	7.5	*7.1-8.3*	10.6	10.9	10.6	10.3	10.5	*9.8-11.4*	13.3	13.5	13.2	13	13.3	*12.1-14.5*
Chloride	86	83	80	81	81	*77-85*	104	103	101	101	101	*97-107*	122	122	118	120	118	*115-127*
Cholesterol	NA	NA	100	103	98	*89-119*	NA	NA	163	165	167	*148-168*	NA	NA	229	228	216	*210-250*
CK	NA	NA	56	56	55	*48-68*	NA	NA	351	369	361	*327-427*	NA	NA	637	661	642	*579-779*
CO2	11	11	12	12	11	*9.0-15.0*	21	20	21	21	20	*17-23*	30	29	29	30	29	*24-34*
CRE3	0.5	0.5	NA	NA	NA	*0.3-0.7*	4	3.9	NA	NA	NA	*3.7-4.5*	7.5	7.3	NA	NA	NA	*6.9-8.5*
Creatinine	NA	NA	0.5	0.5	0.6	*0.4-0.8*	NA	NA	3.9	4	4	*3.6-4.4*	NA	NA	7.1	7.3	7.3	*6.4-8.0*
Iron	NA	NA	NA	51	NA	*37-63*	NA	NA	NA	171	NA	*151-191*	NA	NA	NA	279	NA	*248-320*
GGT	NA	NA	14	15	16	*7.0-27.0*	NA	NA	1	173	162	*137-197*	NA	NA	326	326	306	*259-379*
Glucose	NA	NA	NA	NA	45	*37-53*	NA	NA	224	NA	232	*216-256*	NA	NA	NA	NA	412	*384-452*
GLUm	42	40	41	44	NA	*32-56*	226	218	NA	222	NA	*215-241*	385	370	395	388	NA	*365-435*
HDLD	NA	NA	27	27.4	26	*21-33*	NA	NA	47.8	47.2	47.1	*38-52*	NA	NA	68.5	66.5	69.1	*55-73*
IBCT	NA	NA	NA	216	NA	*150-230*	NA	NA	NA	359	NA	*262-382*	NA	NA	NA	494	NA	*360-516*
Potassium	2.5	2.5	2.5	2.4	2.5	*2.2-2.8*	5.1	5.1	5	4.9	5.1	*4.6-5.4*	7.7	7.7	7.5	7.5	7.4	*6.9-8.1*
LD-L	NA	NA	44	49	NA	*33-63*	NA	NA	185	196	NA	*168-248*	NA	NA	319	335	NA	*299-419*
LDLD	NA	NA	42.8	43.5	43.2	*36-48*	NA	NA	76.4	74.2	74.2	*65-83*	NA	NA	110.6	100	111.3	*92-126*
Lipase	NA	NA	120	124	NA	*96-136*	NA	NA	72	76	NA	*53-85*	NA	NA	25	24	NA	*14-34*
Lithium	NA	NA	0.56	NA	NA	*0.4-0.8*	NA	NA	1.51	NA	NA	*1.2-1.8*	NA	NA	2.42	NA	NA	*1.9-2.9*
Magnesium	NA	NA	1.22	1.18	NA	*0.8-1.6*	NA	NA	2.31	2.26	NA	*2.0-2.8*	NA	NA	3.53	3.44	NA	*2.9-4.1*
Salicylate	NA	NA	30.5	NA	NA	*23-37*	NA	NA	18.3	NA	NA	*14-24*	NA	NA	8.8	NA	NA	*5-11.0*
Sodium	114	117	115	115	115	*110-120*	141	143	140	139	141	*134-146*	167	167	163	165	164	*157-171*
Phosphorus	NA	NA	2	2	NA	*1.6-2.4*	NA	NA	4.5	4.3	NA	*3.7-5.1*	NA	NA	7.1	6.6	NA	*5.8-7.8*
Total Bilirubin	NA	NA	0.9	1	0.9	*0.5-1.5*	NA	NA	4.3	4.2	4.1	*3.0-5.2*	NA	NA	7.4	7.5	7.7	*5.4-9.4*
Total Protein	NA	NA	3.8	4	3.9	*3.6-4.4*	NA	NA	6.1	6.1	6.1	*5.6-6.8*	NA	NA	8.3	8.4	8.2	*7.4-9.2*
Triglyceride	NA	NA	67	68	70	*56-83*	NA	NA	107	107	106	*90-130*	NA	NA	148	141	143	*123-173*
Uric Acid	NA	NA	2.5	2.5	NA	*2.2-3.0*	NA	NA	6.9	6.8	NA	*5.9-7.5*	NA	NA	11.1	11	NA	*9.6-11.6*

DxC600/CX INSTRUMENTS CALIBRATION VERIFICATION - 9/2006

Beckman Ammonia/Alcohol Controls									
Site	MHC	Finley		MHC	Finley		MHC	Finley	
Level	Level 1	Level 1	*Level 1*	Level 2	Level 2	*Level 2*	Level 3	Level 3	*Level 3*
Assay	Result	Result	*Range*	Result	Result	*Range*	Result	Result	*Range*
Ammonia	85	89	*48-116*	254	250	*197-265*	1107	1153	*1040-1193*
Alcohol	0.05	0.05	*0.04-0.06*	0.11	0.11	*0.09-0.12*	0.49	0.48	*0.421-0.509*

Excellent

Beckman Vigil Serology Controls						
Site	Finley		Finley		Finley	
Level	Level 1	*Level 1*	Level 2	*Level 2*	Level 3	*Level 3*
Assay	Result	*Range*	Result	*Range*	Result	*Range*
ASO	87.1	*62.3-101.5*	200.2	*166-226*	383.2	*332-422*

Beckman Vigil Serology Controls						
Site	MHC		MHC		MHC	
Level	Level 1	*Level 1*	Level 2	*Level 2*	Level 3	*Level 3*
Assay	Result	*Range*	Result	*Range*	Result	*Range*
CRP	1	*0.7-1.7*	4.6	*4.5-5.7*	7.2	*6.5-8.5*

Beckman T4 Calibrators						
Site	MHC					
Level	Low Cal	*Low Cal*	33%	67%	High Cal	*High Cal*
Assay	Result	*Target*	Result	Result	Result	*Target*
T4	0.01/0.0	*0.2*	6.1/5.7	13.0/13.3	20.2/19.6	19.7

Falls off a bit as [ ] decreases. 13.2, 6.5. Not typical & not significant. Will wait on next set of challenges.

Beckman D1/D2/D3 Bilirubin Controls												
Site	MHC	Finley	Dyer		MHC	Finley	Dyer		MHC	Finley	Dyer	
Level	D1	D1	D1	*D1*	D2	D2	D2	*D2*	D3	D3	D3	*D3*
Assay	Result	Result	Result	*Range*	Result	Result	Result	*Range*	Result	Result	Result	*Range*
Direct Bilirubin	0.9	0.9		*0.5-1.3 MHC/Fi*	3.9	3.8	3.8	*3.4-4.4*	5.7	5.6	5.7	*5.1-6.5*
			0.7	*0.4-1.2 Dyers*								

Beckman Synchron Level 1 Control diluted 1:10 (Dilution prepared using Saline. Run samples as a CSF sample.)										
Site	MHC	Finley	MHC	Finley	MHC	Finley	MHC	Finley	MHC	Finley
Dilution	Saline	Saline	30%	30%	50%	50%	70%	70%	100%	100%
MTP	RSL	RSL	95	101	162	172	222	223	320	RSH

OK. Would like to look for some MTP-assayed material.
...Lynn

Biorad Multiqual Liquid Assayed Controls (Acid Phos slope set to 1.0)						
Site	MHC					
Assay	Level 1	*Level 1 Range*	Level 2	*Level 2 Range*	Level 3	*Level 3 Range*
Acid Phos	5.6	*5.5-8.3*	14.2	*13.1-19.7*	31.3	*26.9-40.3*

Good.

Beckman HbA1c Cal 2	Result	Result	*Target*
Site	Dyer		
Level	Hem Rgt	1:2 Dil	HbA1c Cal 2	*HbA1c Cal 2*
Assay	Result	Result	Result	*Target*
Hb	RSL	8.2	17.6	*17.8*

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MISCELLANEOUS INSTRUMENTS CALIBRATION VERIFICATION - 9/2006

BNP Calibration Verification kit lot #162422	MHC BNP Cartridge lot #W38825B	I-Stat Cardiac Marker L1 lot #M061591
i-Stat Calibration Verification Material lot #B0656830	Fin BNP Cartridge lot #W38623B	I-Stat Cardiac Marker L2 lot #M061592
MAE i-Stat cartridge lot #Y05266	Beckman D1 Bilirubin Control lot #M412331	I-Stat Cardiac Marker L3 lot #M061593
MHC i-Stat cartridge lot #i606095	Beckman D2 Bilirubin Control lot #M505212	MHC I-Stat1 Troponin I cartridge lot #U06131
Dyer i-Stat cartridge lot #U06095/J06117	Beckman D3 Bilirubin Control lot #M505213	Finley I-Stat1 Troponin I cartridge lot#U0617A
Dyer BNP cartridge lot#W38720B	Beckman D4 Bilirubin Control lot #M505214	Wescor Sweat Controls lot#1504237

BNP Calibration Verification

Site	MHC	Finley	Dyers		MHC	Finley	Dyers		MHC	Finley	Dyers		MHC	Finley	Dyers		MHC	Finley	Dyers	
Level	Level A	Level A	Level A	*Level A*	Level B	Level B	Level B	*Level B*	Level C	Level C	Level C	*Level C*	Level D	Level D	Level D	*Level D*	Level E	Level E	Level E	*Level E*
Assay	Result	Result	Result	*Range*	Result	Result	Result	*Range*	Result	Result	Result	*Range*	Result	Result	Result	*Range*	Result	Result	Result	*Range*
BNP	20.9	19	22.2	*<5.0-33.6*	39.5	34	46.4	*17.9-60.1*	945	709	991	*492-1270*	3830	3560	4620	1750->5000	>5000	3420	>5000	*1990->5000*

i-Stat Calibration Verification Material lot #B06055/B06066/B06068/B06073/B06061
MAE Serial #2-37917
MHC Serial #44097
Dyer Serial #2-46876

Site	MHC	Dyer	MAE		MHC	Dyer	MAE		MHC	Dyer	MAE		MHC	Dyer	MAE		MHC	Dyer	MAE	
Level	Level 1	Level 1	Level 1	*Level 1*	Level 2	Level 2	Level 2	*Level 2*	Level 3	Level 3	Level 3	*Level 3*	Level 4	Level 4	Level 4	*Level 4*	Level 5	Level 5	Level 5	*Level 5*
Assay	Result	Result	Result	*Range*	Result	Result	Result	*Range*	Result	Result	Result	*Range*	Result	Result	Result	*Range*	Result	Result	Result	*Range*
pO2	67	67	67	*50.5-76.5*	76	82	85	*62.8-88.8*	96	101	100	*82.3-106.9*	123	123	120	*100.9-130.9*	353	343	362	*296.7-400.3*
pCO2	89	89.6	85.5	*79.4-96.64*	62	61.8	60.8	*54.86-67.10*	26	26.1	25.3	*20.40-31.18*	18	17.6	16.7	*11.87-22.15*	16	15.5	15	*10.47-20.27*
pH	6.825	6.834	6.826	*6.779-6.877*	7.171	7.18	7.163	*7.126-7.224*	7.45	7.456	7.457	*7.409-7.507*	7.697	7.706	7.706	*7.660-7.758*	8.112	8.141	8.147	*8.095-8.193*

Advance Bilirubinometer *(Since we use the CX Calibrator for this instrument, ranges listed are for the Synchron CX Systems.)*

Site	MAE	MAW		MAE	MAW		MAE	MAW		MAE	MAW	
Level	Level 1	Level 1	*Level 1*	Level 2	Level 2	*Level 2*	Level 3	Level 3	*Level 3*	Level 4	Level 4	*Level 4*
Assay	Result	Result	*Range*	Result	Result	*Range*	Result	Result	*Range*	Result	Result	*Range*
Total Bilirubin	1.6	1.7	*1.2-2.0*	5.9	6.2	*5.2-6.6*	8.6	8.9	*7.9-9.7*	16.6	17	*no ranges*
Direct Bilirubin	0.7	0.5	*0.5-1.3*	3.7	3.8	*3.4-4.4*	5.5	5.3	*5.1-6.5*	11	11.2	*no ranges*

Nanoduct Sweat Chloride

Site	MHC					
Level	Level 1	*Level 1*	Level 2	*Level 2*	Level 3	*Level 3*
Assay	Result	*Range*	Result	*Range*	Result	*Range*
Chloride	43	*38-46*	73	*65-79*	137	*121-147*

iStat 1 Troponin I Calibration Verification

Site	MHC	Finley		MHC	Finley		MHC	Finley	
Level	Level 1	Level 1	*Level 1*	Level 2	Level 2	*Level 2*	Level 3	Level 3	*Level 3*
Assay	Result	Result	*Range*	Result	Result	*Range*	Result	Result	*Range*
Troponin I	0.25	0.26	*0.20-0.36*	1.89	1.6	*1.27-2.37*	34.23	36.26	*20.61-54.35*

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Within tolerances but the tolerances are very forgiving. Finley's cartridge lot is generating lower values relative to the others. May consider increased management of cartridge lots. With a neg predictive value cutoff of <100 pg/ml and the fact that the bnp is run "within house", the difference expressed here at very high levels would have no clinical impact. Will take a look at logistics of cartridge lot management anyway.

ACL INSTRUMENTS CALIBRATION VERIFICATION - 9/2006

Hemosil Assayed Low Abnormal Control lot #N0957718	MHC D-Dimer Low Control lot #B60418
Hemosil Assayed Normal Control lot #N1050340	MHC D-Dimer High Control lot #B60418
Hemosil Assayed High Abnormal Control lot #N0160794	Finley D-Dimer Low Control lot #B50363
Hemosil Assayed Low Fibrinogen Control lot #N0261075 MHC	
Hemosil Assayed Low Fibrinogen Control lot #N1150363 Fin	Finley D-Dimer High Control lot #B50363

ACL 9000
Hemosil Assayed Control Material

Site	MHC							
Level	Low Abn	*Low Abn*	Normal	*Normal*	High Abn	*High Abn*	Low Fib	*Low Fib*
Assay	Result	*Target*	Result	*Target*	Result	*Target*	Result	*Target*
Protime	36.4	*27.2-36.8*	11.2	*9.1-12.1*	60.7	*42.3-57.3*	NA	NA
Fibrinogen	194	*142-212*	356	*272-392*	NA	*NA*	121	*87-125*
Thrombin	15.4	*14.5-19.7*	12.2	*12.2-16.2*	NA	*NA*	NA	NA

Low Abn & High Abn a little high to the target on this set. Wasn't the case last time. Repeat and we'll take it from there.

ACL Classic
Hemosil Assayed Control Material

*ACL 9000 range
no range listed for ACL Classic

Site	Finley	Dyer	MAE	MAW		Finley	Dyer	MAE	MAW		Finley	Dyer	MAE	MAW		Finley	
Level	Low Abn	Low Abn	Low Abn	Low Abn	*Low Abn*	Normal	Normal	Normal	Normal	*Normal*	High Abn	High Abn	High Abn	High Abn	*High Abn*	Low Fib	*Low Fib*
Assay	Result	Result	Result	Result	*Target*	Result	Result	Result	Result	*Target*	Result	Result	Result	Result	*Target*	Result	*Target*
Protime	29.6	31.5	30.3	30.9	*24.1-32.5*	11	10.9	11.5	10.3	*8.8-11.8*	51.6	52.5	52.6	52.3	*42.3-57.3*	NA	NA
Fibrinogen	186	NA	NA	NA	*139-179*	363	NA	NA	NA	*287-377*	NA	NA	NA	NA	*NA*	124	81-131

Very good

ACL 9000
D-Dimer

Site	MHC					
Level	Low Control	*Low Control*	1:1 dil	*Calc target*	High Control	*High Control*
Assay	Result	*Range*	Result	*Range*	Result	*Range*
D-Dimer	306	*267-445*	519	*516*	739	*575-777*

ACL 7000
D-Dimer

Site	Finley					
Level	Low Control	*Low Control*	1:1 dil	*Calc target*	High Control	*High Control*
Assay	Result	*Range*	Result	*Range*	Result	*Range*
D-Dimer	338	*247-411*	483	*510*	665	*587-795*

Good!

September 2006 LM