

HemataSTAT II Technology

ABSTRACT-Comparison Study of the HemataSTAT II centrifuge to the TOA-8000 at Florida Hospital-Orlando in July 1993.

Separation Technology (STI) conducted a comparison study of the HemataSTAT II centrifuge in July of 1993 at Florida Hospital-Orlando. The HemataSTAT II was compared to a Sysmex TOA-8000 using blood collected on EDTA by venipuncture from 223 patients. Twenty-nine samples were from pediatric patients and the remaining tubes were collected from adults. Several technicians performed duplicate hematocrits. Samples were taken from the same microtainer tube using 1.1 ID self-sealing glass capillary tubes.

The results of the study showed a highly significant correlation ($R^2=0.984$) of hematocrit determination between the HemataSTAT II and the TOA. The hematocrits ranged in value from 17.0% to 60.7%. The mean values were 35.5% for the HemataSTAT II and 35.3 for the TOA.

It was concluded that hematocrits determined by the HemataSTAT II demonstrated significant correlation as compared to the hematocrits from the TOA-8000. Further documentation is on file at STI.

HEMATASTAT II

COMPARISON STUDY at FLORIDA HOSPITAL-ORLANDO

July 1993

<i>Study Day</i>	<i>Observations</i>	<i>HS II</i>	<i>TOA</i>
1	1	43.4	41.3
	2	40.9	39.9
	3	26.4	25.2
	4	31.9	31.1
	5	33.9	35.5
	6	37.2	34.2
	7	39.3	37.7
	8	48.3	48.9
	9	30.0	29.8
	10	38.2	38.8
2	11	36.4	39.0
	12	44.4	45.8
	13	35.2	34.2
	14	25.9	26.9
	15	31.3	29.6
	16	24.8	24.2
	17	27.5	26.5
	18	44.1	46.3
	19	37.0	38.6
	20	44.2	44.8
	21	44.5	44.0
	22	40.7	40.9
	23	32.0	32.7
	24	33.6	35.3
	25	35.9	37.0
	26	43.2	44.4
	27	40.1	40.3
	28	35.5	34.2
	29	30.7	32.5
	30	36.2	34.8
	31	38.4	39.5
3	32	36.7	35.7
	33	29.3	29.3
	34	23.7	26.2
	35	36.0	36.4
	36	25.3	25.8
	37	28.6	29.5
	38	26.2	22.2
4	39	34.8	33.9
	40	33.4	36.2
	41	28.2	27.4
	42	27.1	24.8
	43	37.5	37.7
	44	30.6	30.1
	45	41.3	39.6
5	46	43.8	43.4
	47	31.6	30.7
	48	41.2	42.2
	49	42.9	40.6
	50	34.0	33.6
	51	34.2	35.8
	52	43.2	43.4
	53	37.8	38.4
	54	42.7	42.9
	55	33.2	31.4
	56	25.3	26.8

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<i>Study Day</i>	<i>Observations</i>	<i>HS II</i>	<i>TOA</i>
	57	37.1	36.0
	58	34.6	33.5
6	59	30.5	29.9
	60	29.1	28.7
	61	44.3	42.9
	62	42.9	42.2
	63	36.9	39.3
	64	26.5	25.3
	65	36.1	36.2
	66	29.6	26.7
	67	37.6	36.9
	68	37.2	37.4
	69	27.7	25.3
7	70	37.9	36.3
	71	33.7	34.3
	72	45.5	45.3
	73	40.3	40.1
	74	33.0	31.8
	75	40.9	39.8
	76	39.2	39.8
	77	37.7	38.6
	78	48.1	48.7
	79	24.9	25.8
8	80	43.6	43.5
	81	51.0	48.6
	82	36.6	37.8
	83	37.9	36.1
	84	34.2	34.0
	85	38.8	38.9
	86	29.5	30.3
	87	36.2	36.7
	88	35.4	34.9
	89	55.4	53.4
	90	37.3	37.6
	91	20.5	20.2
	92	38.8	37.1
	93	21.9	22.5
	94	31.2	30.8
	95	26.9	26.6
	96	54.4	52.9
	97	29.3	28.6
9	98	34.4	35.2
	99	40.8	38.0
	100	26.3	24.9
	101	32.3	31.0
	102	44.4	38.8
	103	35.0	34.7
	104	34.9	35.9
	105	39.5	41.8
	106	38.5	37.5
	107	36.0	34.9
	108	38.5	38.0
	109	28.0	26.3
	110	44.2	47.2
	111	38.0	41.3
	112	36.2	36.9

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July 1993

<i>Study Day</i>	<i>Observations</i>	<i>HS II</i>	<i>TOA</i>
10	113	40.6	41.3
	114	29.5	29.7
	115	28.6	28.0
	116	29.8	31.1
	117	30.7	31.5
	118	40.5	37.1
	119	37.1	35.6
	120	38.6	37.9
	121	30.3	31.9
	122	43.5	42.9
	123	30.7	31.5
11	124	39.0	39.1
	125	33.2	31.9
	126	29.8	27.7
	127	37.4	38.5
	128	38.9	38.8
	129	39.4	40.5
	130	32.1	34.0
	131	24.3	25.0
	132	33.3	34.9
	133	30.5	33.9
	12	134	43.1
135		30.4	28.7
136		37.2	37.8
137		43.6	43.5
138		33.0	32.3
139		47.0	48.5
140		25.4	26.3
141		25.3	24.7
142		33.7	33.4
143		41.3	41.6
144		45.7	44.0
13	145	33.1	32.3
	146	32.3	33.6
	147	27.2	27.5
	148	34.8	33.4
	149	30.8	30.3
	150	36.0	35.6
	151	33.5	33.3
	152	37.7	37.8
	153	34.4	34.1
	154	31.6	29.6
	155	31.3	31.1
14	156	36.6	35.5
	157	41.6	41.7
	158	43.3	40.7
	159	30.5	31.1
	160	27.2	27.1
	161	25.4	25.3
	162	33.9	34.0
	163	17.2	17.0
	164	34.2	33.9
	165	39.5	39.2
	166	31.2	32.2
14	167	48.3	43.2
	168	46.0	45.1

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COMPARISON STUDY at FLORIDA HOSPITAL-ORLANDO

July 1993

<i>Study Day</i>	<i>Observations</i>	<i>HS II</i>	<i>TOA</i>
	169	31.7	33.1
	170	36.3	34.7
	171	29.5	28.7
	172	24.7	25.1
	173	31.2	31.5
	174	42.4	44.0
	175	29.6	29.0
15	176	46.8	45.7
	177	28.7	28.3
	178	38.2	36.4
	179	22.9	22.6
	180	33.2	33.8
	181	28.5	28.6
	182	41.1	40.5
	183	26.2	26.0
	184	41.9	28.6
	185	25.2	25.3
	186	41.5	43.0
	187	41.3	41.6
	188	37.8	38.2
	189	41.8	42.4
	190	38.7	41.5
	191	47.8	48.7
	192	32.6	32.2
	193	26.4	23.2
	194	57.4	53.7
16	195	45.3	45.0
	196	43.1	47.0
	197	30.5	30.1
	198	34.3	33.2
	199	37.0	35.4
	200	40.6	37.2
	201	29.4	29.6
	202	33.4	35.0
	203	25.2	25.5
	204	33.6	33.2
	205	48.7	47.9
	206	37.8	37.4
	207	20.1	20.3
	208	38.7	38.6
	209	26.8	25.9
	210	37.1	38.1
	211	38.1	39.2
	212	33.2	32.9
	213	33.8	32.8
	214	60.7	60.2
	215	44.0	44.0
17	216	45.8	46.9
	217	27.5	29.4
	218	28.8	27.5
	219	33.6	31.1
	220	37.2	38.0
	221	32.5	32.9
	222	35.1	34.7
	223	24.3	24.4

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July 1993

<i>Study Day</i>	<i>Observations</i>	<i>HS II</i>	<i>TOA</i>
<u>Summary Statistics</u>			
COUNT:		223	223
MEAN:		35.5	35.3
MIN:		17.2	17.0
MAX:		60.7	60.2
1 SD:		7.1	7.1
2SD:		14.1	14.1

Regression Statistics

Multiple R:	0.992
R Square:	0.984
Adjusted R Squar	0.984
Standard Erro	1.665
Observations:	223

Analysis of Variance

	<i>df</i>	<i>Sum of Squares</i>
Regression:	0	10,908
Residual:	222	616
Total:	222	11,088

Coefficients

	<i>Standard Error</i>	<i>t</i>	<i>Statistic</i>
Intercept:	0.992	0.003	322.1146
x1:	-3E-186	-1E-278	3E+92