

Performance Comparison of the epoc Veterinary Point of Care Blood Analysis System versus the i-STAT System and Accutrend Lactate Meter

Equine blood samples were taken at a leading UK veterinary university teaching hospital and analysed on the epoc® (Epocal Corp) and i-STAT® (Abbott Laboratories) handheld critical care analysers for the purpose of evaluating epoc performance. Lactate was tested using the Accutrend® (Roche Diagnostics Corp) lactate meter.

The epoc was evaluated across a wide range of samples from different clinical cases for all parameters. Correlation statistics for the epoc versus i-STAT and Accutrend are detailed in table 1.

Table 1. epoc v's i-STAT and Accutrend

Parameter	N	Correlation Coefficient	r^2	Slope	Intercept	epoc mean	i-STAT mean	Accutrend mean
pH	55	0.961	0.924	0.983	0.127	7.411	7.410	-
PCO2	55	0.976	0.952	0.984	1.108	49.893	50.195	-
PO2	55	0.997	0.994	0.994	1.263	107.675	108.307	-
HCT	55	0.985	0.970	0.812	4.887	33.891	32.418	-
Na	51	0.921	0.848	0.867	16.737	136.980	135.490	-
K	55	0.983	0.967	0.969	0.120	3.478	3.484	-
iCa	55	0.941	0.885	0.783	0.286	1.523	1.501	-
Glucose	51	0.980	0.960	1.006	-0.083	11.106	11.088	-
Lactate	38	0.977	0.955	0.788	0.569	2.162	-	2.274

Bias Plots for pH, PCO2, PO2, HCT, Na, K, iCa, glucose and lactate comparisons are provided below in figures 1-9 respectively.

Figure 1.

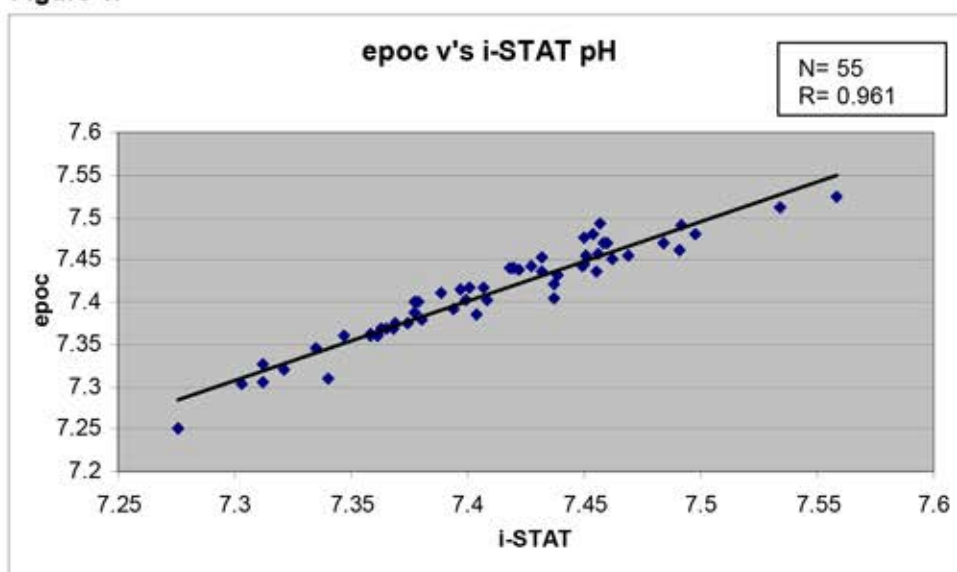


Figure 2.

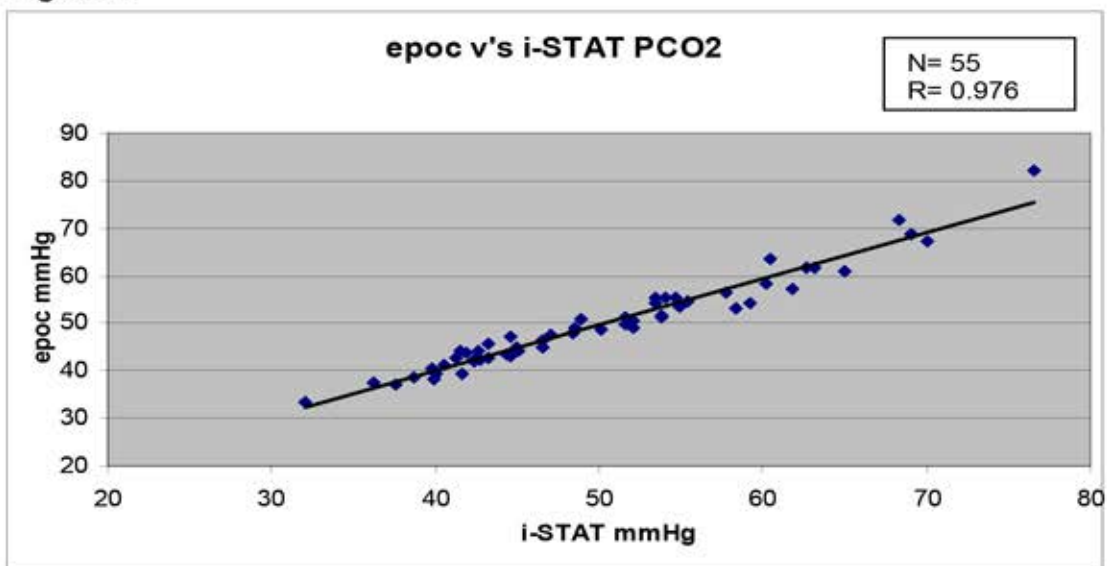


Figure 3.

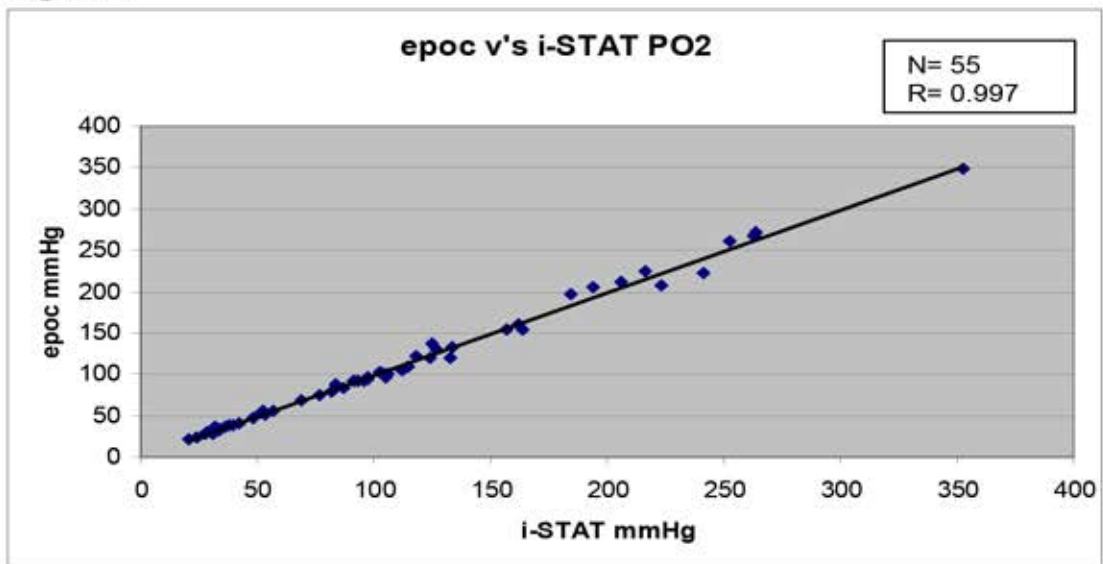


Figure 4.

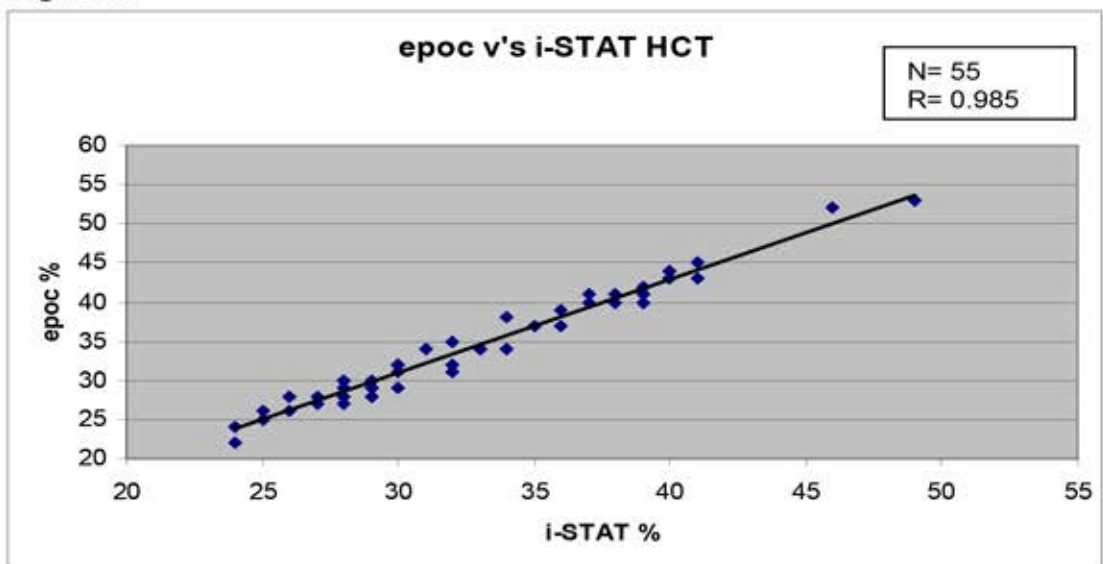


Figure 5.

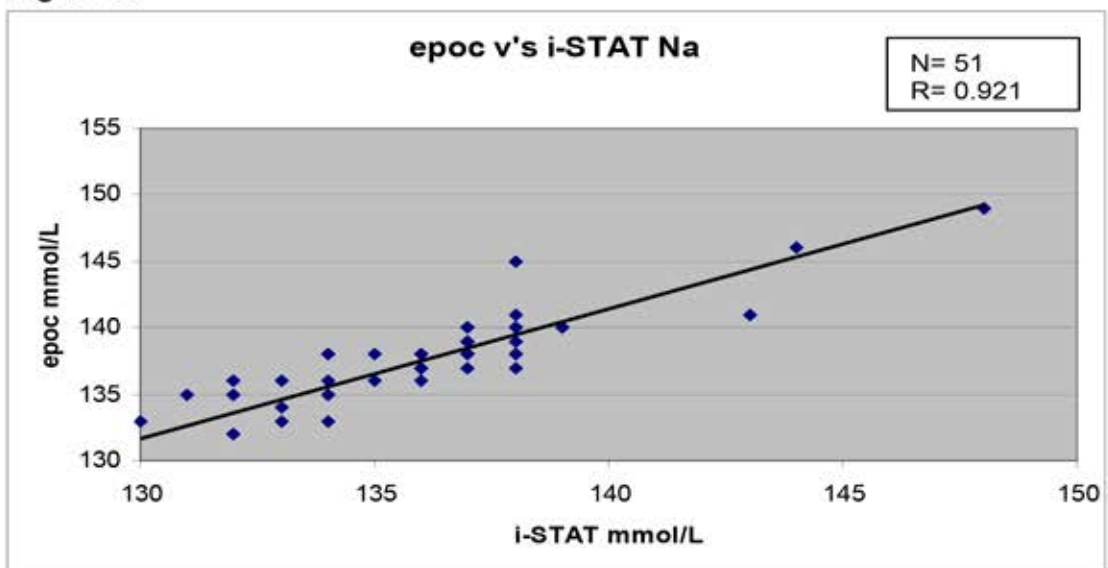


Figure 6.

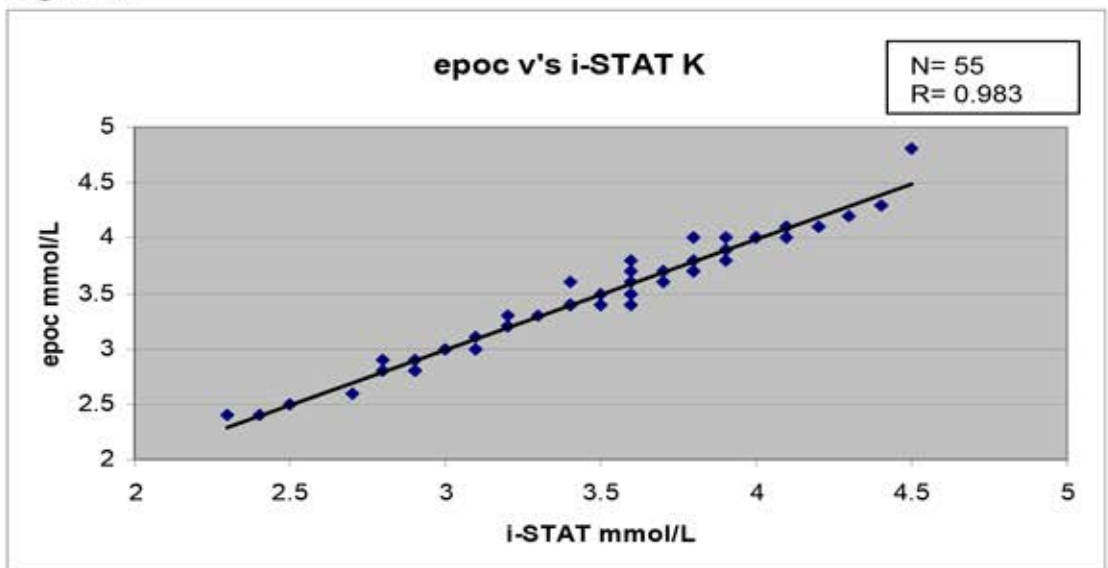


Figure 7.

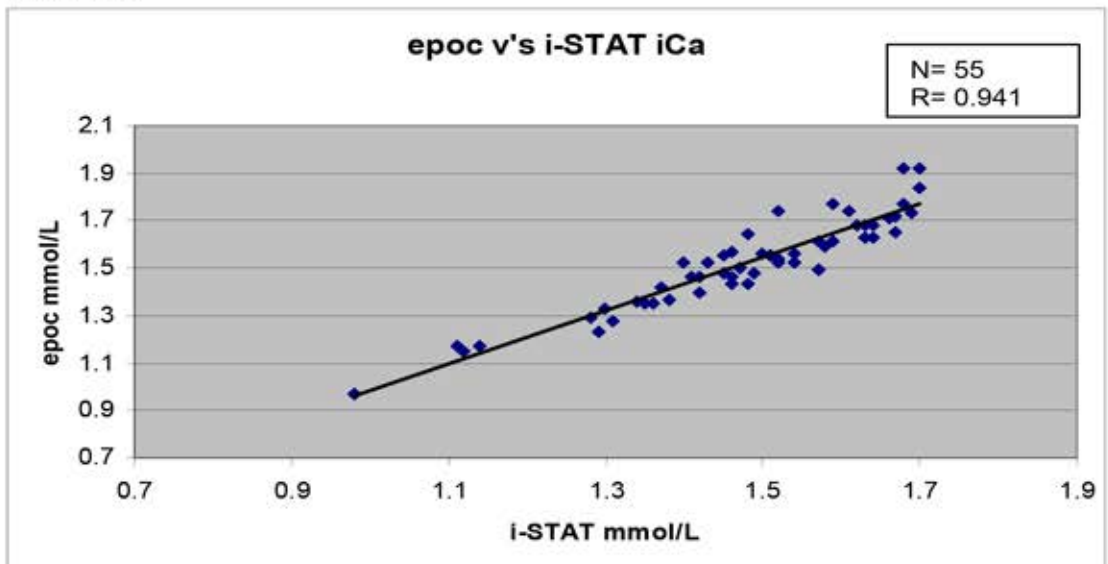


Figure 8.

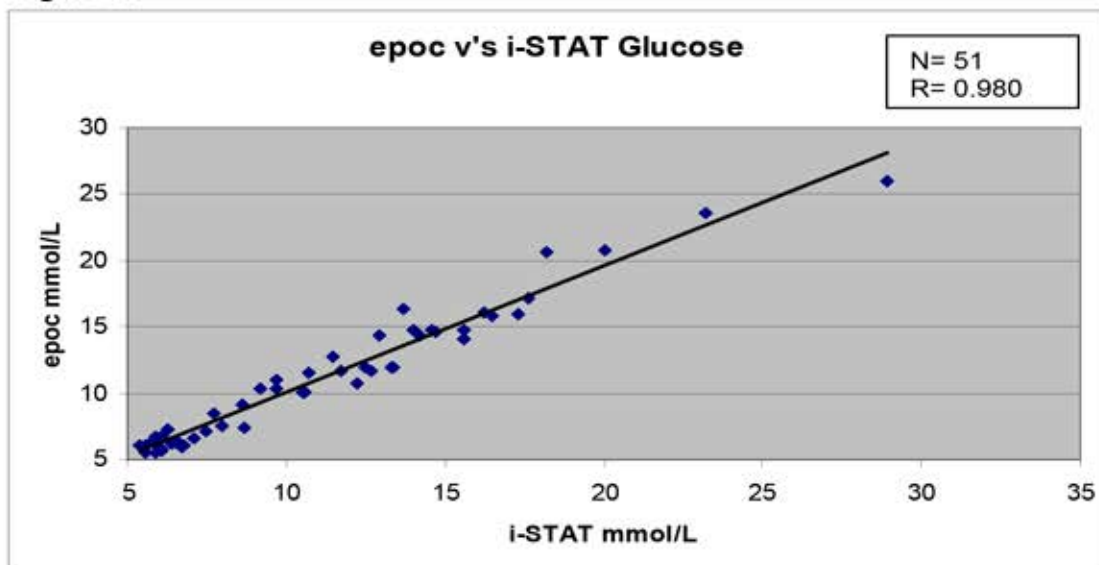


Figure 9.

