

Fig. 8. Glucose by manual hexokinase, as on the ESKALAB vs. glucose by hexokinase, as determined on the Du Pont ACA

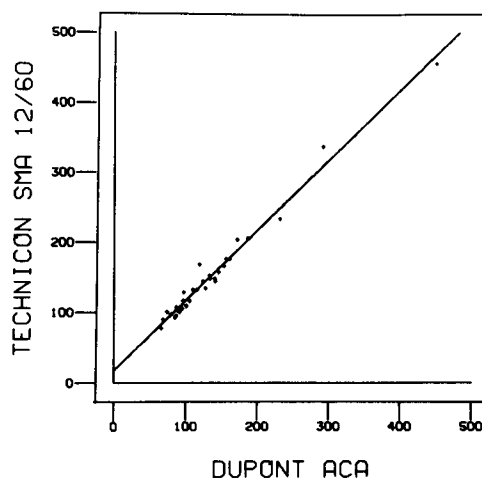


Fig. 10. Glucose for uremic patients as determined by two procedures, neocuproine method on the Technicon SMA 12/60 vs. hexokinase method on the Du Pont ACA

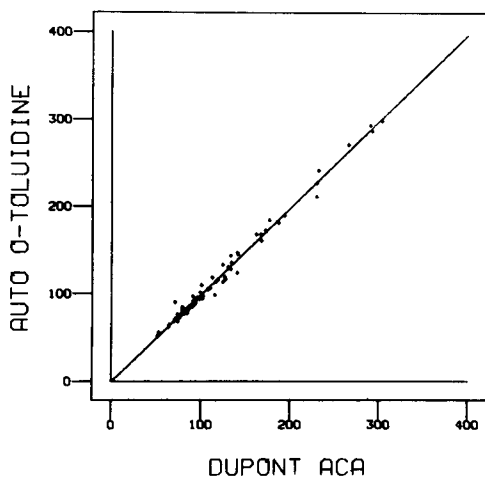
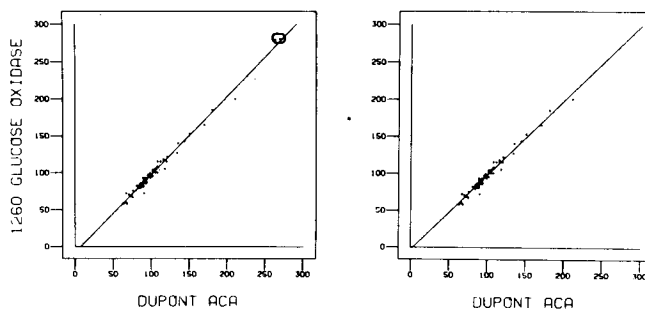


Fig. 9. Glucose by *o*-toluidine, as determined on AutoAnalyzer vs. glucose by hexokinase, as determined on the Du Pont ACA



N	61	59
Slope	1.051	1.006
Y intercept	-7.44	-3.12
Std Error	4.90	4.65

Fig. 11. Glucose by glucose oxidase, as determined on the SMA 12/60 vs. glucose by hexokinase, as determined on the Du Pont ACA: Plot on *left* includes two high points that resulted from nonlinearity. Plot on *right* shows statistical data when these two points are eliminated

mates of errors do not agree well with those from least squares. From the plot on the left side of Figure 11, it appears that two points at the upper end of the least-squares line may be too high. When these two are eliminated (right plot), the least-squares results (Table 5, line *f*) show essentially no proportional error (0.6%), a constant error of -3.1 mg/dl, and a random error of 4.6 mg/dl. Parameters for the *t*-test now give similar estimates for constant and random error. The differences between the two sets of least-squares results show the influence of the two errant points. Further study revealed a definite nonlinear response for the glucose oxidase method, with values being too high at elevated concentrations.

Acceptability

Criteria for acceptability. Acceptability of a method depends on both applicability and performance. Applicability encompasses factors such as sample size, types of samples usable, speed of analysis,

equipment needed, personnel requirements, cost, and the like. Performance considers the type and magnitude of errors. Applicability and performance together define the criteria for acceptability. These criteria originate in the laboratory and in the clinical situation where the values from the method are used. Statistical tests do not provide the criteria for acceptability.

Decisions on acceptability. This discussion concerns performance rather than applicability, although both types of criteria must be met for the method to be acceptable. Decisions on acceptability of performance should be based on judgments on tolerable limits of error. Unfortunately, values for *t* and *F* have often been interpreted as indicators of acceptability for accuracy and precision, respectively, even though they are intended to tell only whether differences between methods are statistically signi-