NADH concentration will produce an upward curve deflection.

Bubble traps have been inserted prior to the pumps on the NADH reagent lines. The trap has been constructed from an Y-shaped glass tube, mounted upside-down, with its top connected to a piece of soft polyethylene tube, closed by a clamp. This tube will collect bubbles. Each morning, it must be refilled with fresh reagent by aspiration. In our SMAC analyzer, run frequency is reduced by 3% on each of the two channels.

Stepwise Regression Equations Relating Plasma or Erythrocyte Magnesium and Other Variables in Insulin-Dependent and Non-Insulin-Dependent Diabetics,
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In a recent article (1), we measured magnesium in plasma (P) and erythrocytes (E) of 51 diabetics and determined correlations between 12 variables. We present here the stepwise regression equations for these same subjects, with P-Mg or E-Mg chosen as dependent variable (2).

I. 19 insulin-dependent diabetic men (11 variables: P-Mg, E-Mg, age, body-mass index (BM), plasma calcium (P-Ca), total- and HDL-cholesterol (C), triglycerides (T), albumin (A), blood glucose (G), glycoxyalted hemoglobin A1 (Hb1A1)):  

\[
P-Mg = 1.119 + 0.0021 \text{age} - 0.005 G - 0.286 P-Ca + 0.071 \text{HDL-C} + 0.061 T + 0.049 E-Mg \quad (r = 0.908)
\]

\[
E-Mg = 1.333 - 0.0271 G + 0.0355 Hb1A1 + 0.3012 \text{HDL-C} \quad (r = 0.574).
\]

II. 22 insulin-dependent diabetic women (same 11 variables):

\[
P-Mg = 0.2741 - 0.0073 A + 0.1717 P-Ca + 0.2066 E-Mg \quad (r = 0.734)
\]

\[
E-Mg = 0.3473 + 0.0119 BM + 1.563 P-Mg \quad (r = 0.664).
\]

III. 10 non-insulin-dependent diabetic women (seven variables: age, BM, T, and Hb1A1 being excluded):

\[
P-Mg = -8.125 + 1.966 P-Ca + 0.0558 A - 0.0695 \text{total-C} + 0.1202 E-Mg \quad (r = 0.965)
\]

\[
E-Mg = 6.782 - 1.597 P-Ca - 0.0476 A + 0.0594 \text{total-C} + 0.744 P-Mg \quad (r = 0.996).
\]

Out of all of the correlated variables acting on a given phenomenon, the stepwise regression equation selects the most representative. This equation is admittedly less predictive than that of regression for all the variables measured, but it is simpler (only the essential factors are included), which accounts for its values (2).

References

Simplified Method for Cystinuria Screening, R. M. David, Z. K. Shihabi, and M. L. O'Connor (Dept. of Pathol., Wake Forest University, The Bowman Gray School of Med., Winston-Salem, NC 27103)

We use the Ames "Ketostix" (Miles Laboratory, Elkhart, IN) in a simple, specific cystinuria screen based on Brand's cyanide–nitroprusside test (J Biol Chem 1930;86:315). Normally, the urinary output of cysteine and cystine totals 10 to 100 mg/24 h, cysteine constituting about 10% of this total. Sodium cyanide is used to reduce the nonreactive cystine to cysteine, the chemically reactive sulfhydryl groups of which are then reacted with nitroprusside to produce a characteristic magenta color. Our modification is to use the reagent pad of the Ketostix in place of the sodium nitroprusside solution, which is unstable and must be freshly prepared.

A Ketostix is dipped into an aliquot of the urine to be tested. If there is an initial color change, then ketones are present and some alternative method of testing for cystine must be used. Next, 100 µL of 1 mol/L sodium cyanide (stable for one month when stored refrigerated) is added to 300 µL of urine or control. After the mixture has stood for 10 min at room temperature, a Ketostix is dipped into it. A positive result will be indicated by a clear-cut magenta color in the reagent pad. The sensitivity is such that an aqueous 50 mg/L solution of cystine gives a trace-positive Ketostix reaction.