or between serum and urine. As Figure 1 shows, using this assay for urines with very heavy concentrations of protein will result in gross underestimates of the protein concentration.

We have resolved this problem by including an additional "test": adding only 20 μL of sample, instead of 100 μL, so that at least one "test" will show turbidity if protein is present. Because the standard curve for the method is linear only to 2 g/L, samples displaying heavy proteinuria will require a series of dilutions for an accurate result to be obtained; therefore, this modification is not unduly arduous.

However, in view of the risks involved in missing heavy proteinuria, we do not consider this a satisfactory procedure for the routine measurement of urine protein.

Reference

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Cyclosporine: Interlaboratory Q.C. Program

To the Editor:

In a recent Special Report (1) the Task Force on Cyclosporine Monitoring discussed the importance of interlaboratory and interlaboratory quality assessment.

I would like to point out that BioRad Laboratories markets a bi-level whole-blood control for cyclosporine under its "Lyphochek" label that provides an important adjunct to the proficiency programs mentioned in the report.

The control is supplied in lyophilized 2-mL aliquots and has a three-year shelf life, allowing laboratories to use the same pool of control for long periods, reducing pool-to-pool shifts and the consequent need to re-establish expected values.

One of the most important features of this control is that an interlaboratory quality-control program is provided by the manufacturer, free of charge to customers for the life of the control. This allows users monthly feedback on their performance relative to laboratories throughout the world.

This product, as is often the case with lyophilized commercial controls, is not compatible with some HPLC extraction procedures that co-extract interfering lipophilic substances; however, this control performs well in both HPLC and RIA procedures and I believe it can be an important addition to a conscientious quality-assurance program.

Reference

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More on Sigma's Oxalate Kit

To the Editor:

In my recent publication (1) I stated that Sigma's technical bulletin made no reference to the importance of urinary pH in the assay of oxalate by their kit method.

Since this work was done, Sigma has modified the bulletin and now recommends adjusting urinary pH to between 1 and 3. However, this would still result in a low recovery of oxalate if the pH fell below 1.5.

Reference

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Reliability of Breath-Alcohol Measurements during the Absorption Phase

To the Editor:

I feel obliged to comment on the article by Simpson in the June issue of your journal (1). This concerned the blood/breath ratio of ethanol and its variability during the time when subjects are in the absorption phase of ethanol metabolism. As in his previous paper (2), Simpson challenges the validity of estimating blood-alcohol concentration indirectly by analysis of breath for law-enforcement purposes. In particular, he contends that this procedure is particularly unreliable during the absorption phase of the blood-alcohol time course.

Simpson persists with his claim that a substantial number of drivers will still be absorbing alcohol when the breath analysis is made. But the reference he cites to support this view contains no experimental data to allow an independent check (3). I recently estimated that 3.8% (British study) and 3.2% (Swedish study) of drunk drivers are still in the absorption phase at the time of breath testing (4). If these figures are not acceptable to Simpson then I suggest that he conducts the appropriate experiment or otherwise refrain from wild speculations.

The work of Shahani and Dinn (5) may give a clue to the time interval between last drink and peak blood alcohol concentration (BAC) under field conditions. They made experiments with eight men and eight women who consumed alcohol in a social setting that might be considered similar to a drunk-driving situation. The mean time to maximum BAC "after drinking ended" was 35 min (range 17–68).

Gullberg (6) reported a study with 39 volunteers who drank various doses of alcohol under fed and fasted conditions designed to mimic a real-life situation. The mean time to peak BAC after end of drinking was 19 min (range 0–80 min). In particular, 81% of subjects reached their peak BAC within 30 min or less. To quote from Gullberg: "these results suggest the low probability that an individual submitting to a blood alcohol test following an incident will have a BAC that is higher than at the time of the incident." This implies that most subjects should be post-absorptive at the time of breath sampling for legal purposes.

Although completely ignored by Simpson, the minimum possible time interval between apprehension of a suspected drunk-driver and breath analysis for evidential purposes is 20 min. Instruction manuals for breath-alcohol instruments and police regulations and procedures for conducting substantive tests always demand this waiting period. This eliminates the risk of sample contamination by "mouth alcohol." In practice, an evidential breath-alcohol determination is normally preceded by a preliminary roadside screening test, and this procedure takes time. Unless the individual consumes alcohol when still driving his car, much more time will elapse between the last drink and the evidential...