The observation of hypouricemia is an important and often misinterpreted finding in children. It can suggest the "Dalmatian dog syndrome" [3], in which there is a high renal urate clearance (hereditary renal hypouricemia), or xanthine dehydrogenase deficiency. The latter is rarely associated with the clinically much more severe combined xanthine dehydrogenase/sulfite oxidase deficiency (also known as the molybdenum cofactor defect). Considerable genetic heterogeneity in enzyme expression is now documented in both xanthine dehydrogenase/sulfite oxidase and PNP deficiency, such that milder disease is seen with late presentation. The plasma urate may be in the low to normal range and the defect can only be recognized from the presence of abnormal purine metabolites [3, 4].

Errors in the diagnosis of these and other defects of purine metabolism can occur if the patient has a urinary tract infection or if urine is collected without the correct preservative. The deoxyribonucleosides that accumulate in PNP deficiency are acid labile [3]. Urines collected into acid may have their deoxyribonucleosides break down into the corresponding bases, causing confusion between PNP and xanthine dehydrogenase deficiency. Furthermore, because bacterial contamination can cause degradation of nucleosides and deoxyribonucleosides to their bases and subsequently to uric acid, the presence of live bacteria in urine may result in a missed diagnosis of xanthine dehydrogenase deficiency as well if only uric acid is measured in urine [3].

The serendipitous finding of hypouricemia can suggest a defect in purine metabolism, which can best be resolved by assaying red cells, plasma, and a 24-h urine specimen (preserved with 1 g of thymol and analyzed by HPLC). Close clinical liaison is essential, as is referral of samples to a specialized laboratory.

References

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**Salivary Reagent Stick Measures Serum Ethanol Concentrations**

To the Editor:

Patients presented to an accident and emergency department often are affected by alcohol; a rapid diagnosis of intoxication and an estimation of blood alcohol content are sometimes essential. Furthermore, in comatose patients it is important to assess whether the unconsciousness is caused by an intracranial hematoma, an epileptic insult, or a diabetic coma, or is an effect of excessive ethanol consumption. Therefore, fast, easy-to-perform determinations of the concentration of blood alcohol are needed. Reagent kits for determinations of blood or serum ethanol concentrations are based on enzymatic reactions with either alcohol dehydrogenase [1] or alcohol oxidase [2] and require the use of manual spectrophotometers or automated analyzers. These methods, however, are cumbersome and time-consuming. Easier and faster methods include breath-alcohol devices [3] and devices for measuring ethanol in saliva [4]. We applied the latter for determination of ethanol in serum because patients who present to an accident and emergency department always undergo routine phlebotomy; therefore, blood instead of saliva is the material of choice.

The Q.E.D.™ Saliva Alcohol Test (STC Diagnostics, Bethlehem, PA) looks like a small thermometer. Instead of saliva, we use 200 μL of serum as the
parametric method of Passing and Bablock. Alcohol Test can be used for determination of ethanol concentration. It is reliable, rapid, and a useful device for bedside analysis of alcohol at hospital emergency units.

We compared the Q.E.D. test with an enzymatic Cobas method.

We were happy to read the Letter by Henderson and Bhatnagar [1] and support their recommendations for the presentation of ROC plots. However, we would like to make some additional suggestions.

With regards to their second recommendation, "Indicate decision thresholds, particularly diagnostic rule-in and rule-out thresholds," we suggest indicating on the graph the threshold value that corresponds to a sensitivity of 95% and the threshold value that corresponds to a specificity of 95%. The reader can then read from the ROC plot the specificity corresponding to a sensitivity of 95%, and the sensitivity corresponding to a specificity of 95%. Authors can select other levels of sensitivity and specificity (e.g., 90%, 99%, 100%), depending on the clinical sense of the test and the possible cost of a decision made on the basis of a false-positive or false-negative classification.

If authors prefer not to publish the ROC plot—although this is recommended [2]—the same information should be given in the text or in a table. Also, we stress the importance of reporting the number of cases in the two groups studied, namely, the positive "diseased" group and the negative "control" group.

When making a comparison between two ROC curves, investigators should keep in mind that almost any laboratory test can be made highly specific or highly sensitive just by choosing a very low or a very high threshold value. It is more interesting, therefore, to compare the sensitivity of the two tests corresponding to a given specificity (e.g., 95%) and the specificity of the tests corresponding to a given sensitivity (e.g., 95%), as in the example in Fig. 1. Even when the areas under the two curves are not different, this information may result in a quite different appreciation of the usefulness of the two diagnostic tests. For example,