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 hypouricaemia), 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 deoxynucleosides that accumulate in PNP deficiency are acid labile [3]. Urines collected into acid may have their deoxynucleosides break down into the corresponding bases, causing confusion between PNP and xanthine dehydrogenase deficiency. Furthermore, because bacterial contamination can cause degradation of nucleosides and deoxynucleosides 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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**Marked Hypouricemia in Purine Nucleoside Phosphorylase Deficiency—Serendipitous Finding on Screening**

To the Editor:

The finding by Ducorps and Helie [1] of hypouricemia in a patient subsequently shown to have xanthine oxidase deficiency is further emphasized by our observation, during a biochemical screen, of a very low serum urate (20 μmol/L) and undetectable urine urate in a 4-year-old girl. The child, whose parents were first cousins, had severe developmental delay, spastic tetraparesis, and hemolytic anemia associated with a positive Coombs test [2]. The patient was diagnosed as having purine nucleoside phosphorylase deficiency (PNP; EC 2.4.2.1) on the basis of a urine purine profile that demonstrated increased concentrations of deoxynucleosides and deoxynucleosides 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.

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4. Fairbanks LD, Hughes EA, Robinson R, Duley JA, Simmonds HA. Genetic heterogeneity in
parametric method of Passing and Bablok. Alcohol Test can be used for determin-

Linear regression analysis with the non-reliable, and rapid and is a useful device well as to pooled serum various amounts for bedside analysis of alcohol at hospital 
g/L were reanalyzed after dilution with with a serum alcohol concentration >2.5 
emergency department patients with altered 
obtained blood samples from 24 emer-
cially significant correlations. Next, we 
tions of ethanol by both methods (Fig. 
zerland). We added to distilled water as 
ental status or suspected alcohol intox-
ations based on measurement of hydrogen peroxide. 
ails diagnosis of alcohol intoxication with a pocket- 
size breath-alcohol device: sampling from uncon-
scious subjects and specificity for ethanol. 
2. Pristilpe L, laccherri E, Manzatl C. Enzymatic 
ethanol assay: a new colorimetric method based on measurement of hydrogen peroxide. 
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descriptions of the tests corresponding to a specificity of 95%. 
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studies and determination of sample size. Part 

We conclude that the Q.E.D. Saliva Alcohol Test can be used for determin-
ing the ethanol concentration in serum samples. The test is very easy to perform, 
reliable, and rapid and is a useful device for bedside analysis of alcohol at hospital 
emergency units.

A

B

Fig. 1. Ethanol concentrations determined by the Q.E.D. method compared with values 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 
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 nega-
tive “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,

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