Shaver WA, Bhatt H, Combes B. Low serum alkaline phosphatase activity in Wilson's Disease. Hepatology 1986;6:859-863. The authors present two cases involving low serum alkaline phosphatase levels associated with hemolytic anemia and severe hepatic manifestations of Wilson's disease. In a review of 12 other patients presenting with hemolytic anemia, eight had alkaline phosphatase levels that were lower than the normal range; an additional three patients had values lower than the age/sex adjusted mean. Low values are less common in patients with chronic forms of Wilson's disease. Although the mechanism for the low levels of alkaline phosphatase is unclear, the authors speculate that copper may compete with zinc for incorporation into apoenzymes. Copper containing enzyme has no enzymatic activity, giving rise to the low alkaline phosphatase levels.

Quesniaux V, Tees R, Schreier MH, et al. Potential of monoclonal antibodies to improve therapeutic monitoring of cyclosporine. Clin Chem 1987;33:32-37. Cyclosporin, an immunosuppressant used to prevent graft rejection, must be precisely monitored to prevent toxicity. Currently, two methods are available: HPLC detects native cyclosporine and is a complex procedure, whereas the simpler RIA using polyclonal antisera detects native cyclosporine and metabolites. The authors tested the ability of various monoclonal antibodies (MAb) to discriminate between native cyclosporine and its metabolites using an indirect solid-phase enzyme immunoassay. MAb1 could discriminate between native cyclosporine and metabolite with at least a 15- to 1,000-fold difference. MAB2 could measure both native cyclosporine and metabolites. The authors conclude that indirect or direct enzyme immunoassays using both monoclonal antibodies can easily be performed and would provide a better understanding of the role of the parent drug and its metabolites in immunosuppressive therapy.

Lauer K, Firnhaber W. An evaluation of laboratory investigations in patients with multiple sclerosis. J Chronic Dis 1986;39:767-774. The authors studied 213 consecutive patients with definite, probable, or possible multiple sclerosis (MS) in order to assess the diagnostic value of visual-evoked potentials (VEPs), computed tomography (CT), and oligoclonal bands (OB) when compared with clinical criteria alone. The combination of VEPs and OB increased the number of “definite” MS cases from 58% to 75%. In contrast, CT did not significantly contribute to determining the diagnosis. Other findings included: vitamin B12 absorption was less than 10% in 27% of cases, rheumatoid factor was found in 6% of cases, and there was a tendency toward increased IgM and IgG levels.

Maguire JF, Geha RS, Umetsu DT. Myocardial specific creatine phosphokinase isoenzyme elevation in children with asthma treated with intravenous isoproterenol. J Allergy Clin Immunol 1986;78:631-636. The authors retrospectively reviewed 19 cases in which intravenous isoproterenol was used to manage severe childhood status asthmaticus. In 15 instances of IV therapy, the CK-MB levels were elevated, with a mean peak elevation of 204 IU/L and a mean peak MB band of 6.05%; there was no correlation between dosage and the degree of CK-MB elevation. In all cases, follow-up serum CK-MB levels dropped to zero after isoproterenol infusion was stopped and remained undetectable in the six cases continued to be treated with aminophylline, corticosteroids, and inhaled beta-adrenergic agents. The data suggests that myocardial injury results from IV isoproterenol therapy; further studies are required to assess the risk of cardiotoxicity with this drug. In the meantime, the authors propose serial CK-MB determinations for monitoring the conditions of patients receiving therapy.

Scharpe S, Iliano L. Two indirect tests of exocrine pancreatic function evaluated. Clin Chem 1987;33:5-12. The NBT-PABA (bentiromide test) and pancreolauryl tests for assessing exocrine pancreatic function are reviewed. Both are indirect tests and offer the advantage of being non-invasive techniques requiring no medical supervision, and being more affordable, convenient, and acceptable to patients than invasive procedures. In both procedures, a substrate is metabolized by pancreatic enzymes into at least two products, one of which is absorbed and excreted in urine and measured. The tests are useful in the diagnosis of chronic pancreatitis, cystic fibrosis, and pancreatic carcinoma. The pancreolauryl test offers several advantages when compared with NBT-PABA: higher sensitivity and specificity, no interference from other compounds, and can be performed on serum rather than urine specimens.