

# Abnormal Liver Enzymes

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We appreciate the insightful comments by Dr. Lai on our study of associations of race with follow-up patterns after an initial abnormal liver test of patients in a primary care setting.<sup>1,2</sup> Here, we would like to reiterate our strong support of vigilant reevaluation following an initial abnormal liver test in primary care, a practice recommended by the American College of Gastroenterology.<sup>3</sup>

Opportunities exist to improve the diagnosis of liver disease in primary care, a setting where abnormal liver enzymes are common. While repeating liver enzymes is an important first step, more work is needed to move from the finding of an abnormal liver test to making a liver-specific diagnosis. For example, one of the most common and rapidly growing liver diseases is nonalcoholic fatty liver disease (NAFLD), which affects nearly 30–40% of the US population.<sup>4</sup> This leading cause of liver test abnormalities among primary care patients is a significant challenge to primary care physicians because patients with NAFLD often exhibit no symptoms of the disease and in the absence of liver biopsy is essentially a diagnosis of exclusion. A recent European study found that less than 2% of the general population was diagnosed with NAFLD by primary care physicians, concluding that NAFLD remains significantly under-diagnosed and under-treated in primary care settings.<sup>5</sup>

Despite NAFLD's growing contribution to cirrhosis, liver transplantation, and liver-related mortality, the leading cause of death in patients with NAFLD is cardiovascular disease. Primary care physicians are uniquely positioned to implement therapeutic lifestyle changes (e.g., weight loss) and initiate

aggressive cardiovascular risk reduction strategies among NAFLD patients. Thus, close attention is needed for follow-ups of evaluation of abnormal liver tests in order to make appropriate NAFLD diagnosis and to develop a corresponding management plan in primary care for monitoring disease progression, treating complications (e.g., cirrhosis), and managing cardiovascular risks.

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