

## The role of the Gut microbiota in nonalcoholic fatty liver disease

**Ahmed Abu Shanab**  
Birmingham UK

Important metabolic functions have been identified for the gut microbiota in health and disease. Several lines of evidence suggest a role for the gut microbiota in both the etiology of nonalcoholic fatty liver disease (NAFLD) and progression to its more advanced state, nonalcoholic steatohepatitis (NASH). Both NAFLD and NASH are strongly linked to obesity, type 2 diabetes mellitus and the metabolic syndrome and, accordingly, have become common worldwide problems. Small intestinal bacterial overgrowth of Gram-negative organisms could promote insulin resistance, increase endogenous ethanol production and induce choline deficiency,

all factors implicated in NAFLD. Among the potential mediators of this association, lipopolysaccharide (a component of Gram-negative bacterial cell walls) exerts relevant metabolic and proinflammatory effects. Although the best evidence to support a role for the gut microbiota in NAFLD and NASH comes largely from animal models, data from studies in humans (albeit at times contradictory) is accumulating and could lead to new therapeutic avenues for these highly prevalent conditions.

e: shanabu17@hotmail.com