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**Title:** Increased risk of obstructive sleep apnoea in patients with non-alcoholic fatty liver disease

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**Body:** Background: Increasing prevalence of Obstructive Sleep Apnoea (OSA) and Non-alcoholic Fatty Liver Disease (NAFLD) are linked through the epidemic of obesity and metabolic syndrome. Patients with NAFLD often present with fatigue and daytime sleepiness and it has been postulated that intermittent hypoxia in OSA may accelerate liver cirrhosis in this group. Aims: We hypothesised that OSA would be prevalent in patients with NAFLD. We aimed to determine whether those with OSA had different clinical or biochemical characteristics to the rest of the cohort. Methods: We conducted a retrospective database and case note review of patients with known NAFLD. The database was reviewed for detailed liver investigations and notes examined for any clinical referral for sleep investigations and outcome. Results: Liver database and case notes of 385 patients with biopsy proven NAFLD were examined. Forty-seven patients were referred to sleep services on clinical grounds (12%); 38 were found to have OSA, 10% of the whole cohort but 86% of those referred. Analysis of variance showed no difference between groups (those with OSA, those without OSA and those with no previous sleep investigations) in: baseline liver function, diabetes, body mass index, liver biopsy scores or any other marker of metabolic syndrome. Patients referred for sleep studies had higher ESS than those not referred (mean 13 vs.7, p=0.004) but there was no difference in ESS between those with or without OSA. Conclusions: In a well-defined population of biopsy-proven NAFLD patients, OSA is common and mostly undiagnosed. There are no differences in the clinical characteristics of those referred for sleep studies and those not, other than ESS.