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Titel des Beitrags:  
Are air pollution and traffic noise independently associated with atherosclerosis: the Heinz Nixdorf Recall Study.

Abstract:  
Living close to high traffic has been linked to subclinical atherosclerosis, however it is not clear, whether fine particulate matter (PM) air pollution or noise, two important traffic-related exposures, are responsible for the association. We investigate the independent associations of long-term exposure to fine PM and road traffic noise with thoracic aortic calcification (TAC), a reliable measure of subclinical atherosclerosis. We used baseline data (2000-2003) from the German Heinz Nixdorf Recall Study, a population-based cohort of 4814 randomly selected participants. We assessed residential long-term exposure to PM with a chemistry transport model, and to road traffic noise using façade levels from noise models as weighted 24 h mean noise (Lden) and night-time noise (Lnight). Thoracic aortic calcification was quantified from non-contrast enhanced electron beam computed tomography. We used multiple linear regression to
estimate associations of environmental exposures with ln(TAC+1), adjusting for each other, individual, and neighbourhood characteristics. In 4238 participants (mean age 60 years, 49.9% male), PM2.5 (aerodynamic diameter<=2.5 µm) and Lnight are both associated with an increasing TAC-burden of 18.1% (95% CI: 6.6; 30.9%) per 2.4 µg/m(3) PM2.5 and 3.9% (95% CI 0.0; 8.0%) per 5dB(A) Lnight, respectively, in the full model and after mutual adjustment. We did not observe effect measure modification of the PM2.5 association by Lnight or vice versa. Long-term exposure to fine PM and night-time traffic noise are both independently associated with subclinical atherosclerosis and may both contribute to the association of traffic proximity with atherosclerosis.